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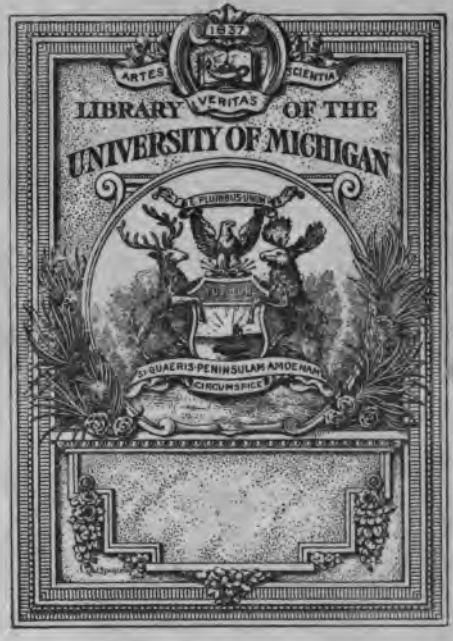
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THE

WESTERN JOURNAL

OF

MEDICINE AND SURGERY:

EDITED BY

DANIEL DRAKE, M.D.,

AND

LUNSFORD P. YANDELL, M.D.,

PROFESSORS IN THE LOUISVILLE MEDICAL INSTITUTE,

AND

THOMAS W. COLESCOTT, M.D.

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EDITORS.

DANIEL DRAKE, M. D.,

PROFESSOR OF PATHOLOGICAL ANATOMY AND CLINICAL MEDICINE
IN THE MEDICAL INSTITUTE OF LOUISVILLE:

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THE

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OF

MEDICINE AND SURGERY.

JANUARY, 1844.

ART. I.—*Remarks upon Inversion of the Uterus.** By W. L. SUTTON, M.D. of Georgetown, Ky.

It is somewhat natural that a physician engaged in extensive practice in any one department of the profession, should conclude that he has seen and is well acquainted with every form and variety of disease of that particular department. Thus we have Mr. Sharpe, and at one time Mr. Benj. Bell, denying that dislocations of the femur ever take place; and Mr. Bell, doubting, to the last, the occurrence of that variety of the dislocation, which the general experience of the profession shows to be most common. Circumstances of this

* A small portion of this article appeared in the *American Journal*, for July, 1842.—EDS.

kind should teach us two useful lessons. First—Not to be too ready to draw sweeping conclusions. Second—That the opinions of those highest in authority, and of the most extensive experience, should still be received with an eye to human fallibility.

I premise these reflections to a few observations, which I propose to offer on Inversion of the Uterus; an accident which Dr. Dewees, the highest obstetric authority in this country, and Drs. Denman, Hunter, and Ford, equally high in England, declare cannot be rectified when complete. That the cases which occurred in Dr. D.'s practice, if taken alone, or rather if *all* cases of inversion were such as occurred in his practice, then I should not doubt the correctness of his precepts. But as I have positive evidence that inversion may occur under more favorable circumstances—circumstances under which the doctor's authority has had a benumbing influence—I am disposed to offer to the profession such observations as my experience and reflections justify.

In the second case detailed in this paper, I returned the flaccid uterus into the vagina and desisted, not because of any insuperable difficulty in completing the reduction, but because I had a distinct recollection of Dr. Dewees' authority, and also of a former case which a long continued attempt had proved unmanageable:—whereas Professor W. H. Richardson, of Transylvania, who arrived perhaps three hours after the accident, readily affected a complete reduction.

I shall in the first place detail two cases which fell under my notice, and then add such remarks as may present themselves. In doing this I shall be compelled to speak much of Dr. Dewees' authority, I trust with that respect, which I feel for him as one of the great lights in our profession, and also with that freedom which the cause of suffering humanity seems to require.

Case I.—November 16, 1823, I was desired to visit Mrs. S., who was said to be in labor. When I entered the room, the midwife observed there was something wrong. Upon making examination, the first thing which attracted my at-

rention was a tumor, which, from its size and firmness, I, for an instant, took to be the head of a child: and supposing the shoulders had engaged the pelvis unfavorably, I ran my finger up the neck to liberate them; when I found that this tumor was a part of the mother, and nothing less than the uterus inverted and expelled. I now first learned that the child had been born. The midwife assured me that she did not have a worse time than common; that the placenta came away in good time, and without difficulty; that the tumor followed it closely; and that not knowing what it was, she did not know whether to permit its exit or not. I endeavored to replace it by grasping it between my hands, and after squeezing it for some time, pushing it in the direction of the outlet of the pelvis. But the tumor was so firm that little impression could be made upon it, and I was utterly unable to reduce it. Upon squeezing the uterus, several blood vessels spouted and bled for a short time. The patient had a ghastly aspect; lips bluish, pupils dilated, pulse very weak: yet the hemorrhage had not been considerable. She did not complain much, but I thought that was owing to the diminution of sensibility. Having become entirely satisfied that longer endeavors to replace the uterus would be fruitless, and must still hasten her dissolution, I desisted, and attempted to sustain her by stimuli, small in quantity and frequently repeated. In this also I failed. Her pulse soon disappeared, and she died in about three hours. This woman was said to be somewhat loose in her morals: had conceived three times and miscarried once; at which time she was said to have had a prolapsus uteri.

Case II.—October 19, 1835, Mrs. H. in labor with her first child. The uterus being expelled with the child, I saw her perhaps in half an hour. The placenta was yet partially attached to the fundus uteri; the body of the uterus completely expelled the vulva; no hemorrhage, great sinking, lips and countenance livid, pulse scarcely perceptible—the uterus not firm as in case 1st. Sent off for Dr. Richardson—separated the placenta, and by moderate and continued pressure returned the uterus into the pelvis. Dr. Richardson.

arriving some time afterwards, completed the reduction. She continued very weak and faint, and had frequent retching. This state was considerably altered by injections of starch and laudanum.

In this case, the membranes gave way several hours before the child was born, the presentation natural, pains rather short and at considerable intervals. The body was not expelled by the same pain that expelled the head, but the uterus followed the body by the same pain; the cord was rather short.

Evening.—She has taken small doses of stimuli during the day, also a dose of ol. ricini, which vomited her. Complains of great soreness, pulse weak and very quick, lochia proper; has passed no urine, nor felt any disposition to do so.

20th, 3 o'clock A. M. A great deal of pain in the uterine region; has passed no urine or fæces, nor feels any disposition; pulse small, somewhat hard and very frequent; severe head ache. Drew off about three pints of urine; bled to ʒviii; cold water to head; ol. ricini ʒii. Evening. Medicine worked well; dejections said to be proper; pulse still frequent (about 150); head ache undiminished; no abdominal pain; lochia have been rather profuse, but at present proper. Sinapisms, which have been applied to the head, having failed to give relief, a blister was applied to the back of the neck; laudanum gtt.x. to restrain the operation of the oil. Discharge of urine natural.

21st.—Head still aches; pulse 132; bowels freely open; urine plenty; lochia proper; no milk. Blister drew well without materially relieving the head.

22d.—Head still aches; skin pleasant; pulse 132; no milk; lochia offensive and pale. ℞ Draw the breasts, and wash the vulva and vagina with chamomile tea.

23d.—Head somewhat relieved; skin pleasant; pulse 132; some appetite; no milk; urine scant; lochia offensive; bowels have not been moved for thirty-six hours; a little tenderness in the uterine region. ℞ Injection of chamomile tea into the uterus and vagina. Seidlitz powders to keep the bowels regular.

25th.—The head has nearly ceased to ache, but feels very sore. The injections into the uterus appear to have benefited her much. No fetor attends the lochia; feels comfortable; skin natural; bowels in good order; no milk, but some soreness of the breasts. From this time she continued to improve, but her health remained delicate for some time. She never had any secretion of milk. In the management of this case I had the benefit of Dr. Richardson's advice, who saw her twice with me after the reduction was affected.

Causes.—Dr. Dewees tells us*—"For the uterus to become completely inverted, several circumstances must combine; first, the fundus must most probably contract while the body and neck must be flaccid; second, a force or weight must be applied to the fundus which is capable of making it descend through the os internum: this force may be the power applied to the cord; and the weight may be the placenta itself, when it is engrafted immediately upon the fundus, or the pressure of some of the abdominal viscera."—par. 1269. Again. "The remote cause of this accident is the want of power or disposition in the body and neck of the uterus to contract. This may be occasioned by an over distention of this organ from an excess of liquor amnii; from the unusual size of the fœtus; from a compound pregnancy; from hemorrhagy; from passions or emotions of the mind; from exhaustion in consequence of previous disease; from long continued efforts to effect delivery, &c."—par. 1279. By others, force applied to the cord is considered as the cause, in most instances. I am very far from believing that what I cannot comprehend, must be unintelligible to others. I therefore only express my own opinion when I say that I do not understand the agency or necessity of the first circumstance, in the above mentioned combination, viz: "The fundus must most probably contract while the body and neck must be flaccid." I can very well

* In quoting from Dr. Dewees, I use the fifth edition. In the seventh edition, the latest I have seen, the chapter on inversion is not altered from the fifth.

understand how a contraction of the fibres of the fundus (the body remaining uncontracted), may diminish its convexity; but I do not comprehend how it should cause the fundus to dip into the body. Neither do I see why the contraction of the fundus would render the body less able to support it. We might suppose that the contraction would expel some of the fluids from the walls of the uterus, and thereby remove some of the weight. Again, if the fundus contracts, it thereby detaches the placenta; that is, if we consider its attachment at the fundus, as a necessary requisite to inversion; but in about half the cases which are fully reported, the placenta remained adherent. We are therefore, in my opinion, reduced to the second and only circumstance in Dr. D.'s combination of proximate causes; namely, a force or power applied to fundus uteri capable of making it descend through the os internum. There is no doubt that force applied to the cord sometimes produces inversion. Of this Dr. Meigs furnishes us with a strong example; Dr. Dewees one, in which he very strongly, and most probably, very justly, suspected this as the cause. But Dr. D. disbelieves this as the common cause; and in the two instances which I saw, this was not the cause—at least, so far as the midwife was concerned, and the persons present could be believed—I have myself every confidence in the statements made on each occasion. The midwife who attended the first case, was decidedly not rash, but would request assistance upon any difficulty presenting itself. In the second case, the circumstances and the manner of detailing them, corroborated by declarations of the patient and her friends, left no doubt in my mind as to the correctness of the statement.

I therefore believe that traction applied to the cord is not necessary. But perhaps the voluntary efforts of the patient acting upon a uterus suffering under atony and consequent flaccidity, are frequently the immediate cause of inversion. Although the cord in the second case is mentioned as "rather short," yet it was not unusually so; and my present impression is, that it did not pass round the neck or any limb—yet

no mention is made in my notes, by which I can say positively that the enquiry was made.

Of the cause of this atony, we are, and perhaps to a great extent must remain, ignorant. That the circumstances mentioned by Dr. D., to-wit: "over distention of the uterus from an excess of liquor amnii; from an unusual size of the fœtus; from a compound pregnancy; from hæmorrhage; from passions or emotions of the mind; from exhaustion from previous disease; from long continued uterine efforts to effect delivery, &c," may produce atony, I do not question; and I am disposed to believe that the last is the most usual. If, after a violent and protracted uterine exertion, there is, as may reasonably be believed, a corresponding relaxation, the uterus being emptied of its contents, is in a condition very fit to be protruded by the voluntary efforts, continued a little longer than the contractions of the uterus. I am disposed to believe that this is the true solution in my second case. The membranes gave way about three hours before the birth of the child. No mention was made of any unusual quantity of liquor amnii. The child was not above the ordinary size, single. There had been no hemorrhage; no passions or emotions of the mind; no previous disease. And although it was said that there was no inordinate straining, yet as ladies are sometimes encouraged to "help themselves" by voluntary efforts, that may very readily have been overlooked in the last agonies of labor.

This accident has been divided into complete and incomplete. The definition of complete inversion, as given by American authors, is different from that given by European writers; and I conceive more correct. By European writers the inversion is said to be complete when the fundus escapes through the os externum. (Den. par. 1317.) Dewees, on the other hand, defines a complete inversion to consist "in the fundus and body of the uterus passing through the os internum, or its being turned entirely inside out, to the very mouth of this organ." Again, "I have known the inversion to be complete and yet the fundus not escape from the vagina." (Id. 1266.) The incomplete is defined by Dr. D. as one, "in

which neither the body nor fundus has escaped through the os uteri." This definition is, I humbly think, much less perspicuous than we should expect from the author—one, indeed, which he forgets or disregards before he finishes the paragraph; where he describes the second degree of partial inversion thus: "where it has passed, perhaps half its length, through the os uteri." And third where "it is completely inverted except a portion of the body and neck." I conceive when half the organ has passed through the os uteri, the fundus "must have entirely escaped through" it. And I think that the difference between his second and third division of incomplete inversion is somewhat indistinct. Again, the incomplete inversion is divided into that in which the protruding part is strangulated by the mouth, and that in which it is free.

The Symptoms which should induce us to suspect this accident are "a sudden, severe, and distressing pain in the region of the uterus; and effort to force or bear down; nausea and sometimes vomiting; ghastly aspect; great faintness with more or less hæmorrhage; cold clammy sweats, pulse small, frequent or extinct. A variety of nervous symptoms may also occur of the most distressing kind, arising most probably from the new situation which the abdominal viscera are forced to take, when deprived of the support of the uterus." Although these symptoms should lead us to suspect the presence of inversion, yet examination alone can be depended on for its ascertainment, as the following case will show. In May, 1839, Mrs. C., after a labor of usual duration, was delivered of a son weighing twelve pounds. She remained quite comfortable for some fifteen or twenty minutes, when she was seized with a sense of faintness, difficult and hurried respiration, constant retching, livid, ghastly countenance, cold sweat, weak, quick pulse. Upon examination she was found to have no inordinate hæmorrhage, and the uterus was found well contracted in its proper place. A liberal administration of stimuli, complete rest, and sinapisms to extremities, gradually restored her to a state of comfort, Dr. Ramsbotham also informs us that "collapse occasionally comes on after labor

without any apparent cause; the patient becomes extremely ill, the pulse flags, she becomes restless, and only expresses her sufferings by a groan." This he ascribes "to a want of accommodation of the several parts within the belly to each other in the new state of things."

Dr. Dewees thinks that profuse hæmorrhage and severe pain distinguish the incomplete inversion from that which is complete. European writers, also, although not making it a diagnostic mark, speak of the complete inversion not being in all cases attended by profuse hæmorrhage. Let us examine the cases at present available, and see how they support the distinction.

In Dr. Dewees' first case considerable hæmorrhage is mentioned as present; but pain is not. Second case—The expulsion of the placenta was attended by great pain and great flooding; this was on Friday. On Sunday there was a "renewal of flooding and pains resembling labor pains." But the inversion was not determined to be present until Tuesday. Then no mention is made of pain; but there "was a continuance of uterine discharge." This was the case of partial inversion, which, in despair, the Dr. rendered complete; and the woman was almost instantly "relieved from much of the anxiety and faintness she had before experienced." Not a word said about relief from pain. In third case, nothing is said of pain, except that occasioned by pulling at the cord. There is said to have been "some hæmorrhage," and "a considerable flooding ensued" upon removing the placenta. In case fourth, there was "some hæmorrhage, and considerable pain" after the extraction of the placenta. Three hours after, when the Dr. was called, no mention is made of pain being present; but it is perhaps fair to infer that it was. But "the flooding did not appear to be sufficient to account for her present situation." Of case five we have no detail of symptoms except that the patient was almost exhausted by hemorhage and suffering, and almost pulseless. After completing the inversion "she seemed to improve as a moderate reaction ensued; but it was short-lived; she sank and died. These were all cases of partial inversion. In case sixth nothing is said of symptoms, but the "patient was not

so much exhausted;" this was a case of complete inversion and did well.

In Dr. Meigs' first case "the hæmorrhage was enormous;"* nothing said of pain; this was a case of complete inversion. Second case is given on hearsay. The hæmorrhage was said to be profuse, and she was thought to be in extreme danger; but nothing further is given as to the symptoms present. The Dr. thinks, apparently from an examination, two years after the accident, that the inversion was complete. In the two cases which I have seen, there was absence of considerable hæmorrhage and pain—both complete. It is right to add that on separating the placenta, in my second case, there was no marked hæmorrhage.

From an impartial review of all these cases, I doubt whether Dr. Dewees' diagnostic will be supported. In the first place, several of his cases of partial inversion are without very considerable hæmorrhage, and where the flooding was worse than usual, a partial adhesion of the placenta existed. Again, in his case of partial inversion rendered complete, he does not say anything of relief from a hæmorrhage, but from anxiety and faintness.

In Dr. Meigs' first case, which was one of complete inversion, it is said expressly that "the hæmorrhage was enormous." The phraseology of this case would, by fair interpretation, invalidate Dr. Dewees' opinion; and yet I think it probable that the facts of the case may be different from what we would be apt to suppose at first sight; because no mention is made of profuse hæmorrhage continuing after Dr. Meigs' arrival; and especially nothing of it upon separating the placenta. I therefore think it probable that the "enormous hæmorrhage" may have taken place whilst the inversion was yet incomplete. So far as two cases would go, those seen by me would show that free hæmorrhage is by no means a necessary attendant on complete inversion. It may be well to compare Dr. Dewees' third case with my second.

*Phil. Prac. Mid., art. Inversion.

His was partial—some flooding when he arrived—considerable flooding upon separating the placenta; mine, no considerable hæmorrhage either before or after detaching the placenta. Altogether, I am disposed to think that Dr. Dewees' diagnosis, so far as regards hæmorrhage, will be found entitled to much respect but not decidedly established.

As regards pain as a distinguishing symptom, I do not think his cases establish the claim; as pain is not mentioned as a prominent symptom except in the second and fourth cases. In the second, nothing is said of pain after Sunday morning, two days before Dr. D. saw the patient. His fifth and sixth cases are given in terms too defective to justify any conclusion. In Dr. Meigs' cases nothing is said of pain. In mine, there was no marked pain; but the state of exhaustion, in which both were found, led me to doubt whether freedom from pain was not occasioned by exhaustion of sensibility.

Treatment.—Of the treatment of partial inversion I shall say nothing; and in my observations on the treatment of that which is complete, I shall endeavor to show that it has been remedied, rather than offer anything new as to the manner of operating.

I would observe, in the first place, that an inverted uterus may be found in two different conditions: First—Contracted; second—Flaccid.

The condition in which it is found must determine our mode of proceeding. If the uterus be found contracted, then I am ready to agree with Dr. Dewees, that its replacement is utterly impracticable, at least so long as it remains contracted. Whether a large dose of opium would in any case induce a relaxation, I cannot say; Dr. D. is decidedly of opinion that it would not, and that its only effect has been to relieve pain. Yet if I should ever have another such case, I shall unquestionably try it. My hopes of benefit from a large dose of laudanum, would be founded upon the influence which is known to be exerted by it, in rendering the uterus softer, when it is necessary to turn a fœtus in the uterus, after the waters have been some time discharged. It would be a hope,

not a confidence. But the condition of the patient would render an opiate proper.

If the uterus is found relaxed, I would in the first place administer a large dose of laudanum—say a teaspoonful; both as a means of removing the state of extreme exhaustion and as a means of preventing the contraction of the uterine fibres; next, if the placenta still adhere (as most probably would be the case), I would separate it; and, thirdly, attempt the reduction. This I would do in one of two ways. First, by grasping the uterus with both hands, the fingers being spread over its surface, pressing it for some time and then directing its body towards the axis of the vagina, as is recommended by Dewees, and practiced by myself. When I had succeeded in lodging the uterus in the vagina, I would press it upwards with the points of two or three fingers, so as to carry the fundus and body through the mouth of the organ. For it is evident that when advanced thus far in the operation, the directions given for the reduction are no longer likely to be efficient. Or, secondly, by pressing the point of one or two fingers against the fundus, and carrying it upwards through the mouth, as was performed by Dr. Meigs. Upon failure by one mode, I would try the other. I would detach the placenta, because its presence would greatly diminish the pliability of the uterus, and considerably impede the reduction; and because it is shown, as far as one case goes, that a placenta may be detached from the inverted uterus, even in a state of atony, without considerable hæmorrhage. I say *one* case, although I presume Dr. Meigs' first case might be cited in addition, as nothing is said about hemorrhage upon removing the placenta. It will be observed, that in his case, the uterus alternately contracted and relaxed, and especially upon handling it contracted, as is observed when in its proper position. In this it differed from both cases which I saw. In my first, it was permanently contracted; in the second, no contractions were observed, even in attempting its reduction. It however contracted soon after its rectification.

A question may arise here: were Dr. Meigs' first case and

my second, uteri completely inverted? I must say that I should not suppose any question as to the fact could arise, had not Dr. Dewees labored to prove that an uterus never was restored after being completely inverted, and expressed his belief in the impossibility of its being done. Inasmuch as I consider his definition of complete inversion as the true one, I will try the cases by it. It is contained in par. 1266, *Syst. Mid.*, and runs thus: "By a complete inversion, I mean the passing of the fundus and body through the os internum, or being turned entirely inside out, to the mouth of this organ; when this takes place, the mouth of the uterus is looking upwards, and is within the cavity of the abdomen. But it is not necessary to the complete inversion, that the body and fundus escape through the os externum; as this condition may happen, and yet the uterus be concealed within the vagina." Now, in the cases under consideration, the inversion was either partial or complete. As I consider them perfectly parallel cases, except the hemorrhage and alternate contractions, in Dr. Meig's case, I shall refer principally to the one seen by myself. If I were to say that the fundus extended full six inches beyond the vulva, I am satisfied I should be within the truth; there was no hemorrhage, no pain; no offset, indicating the placa where the body escaped through the mouth, was perceived. Take now the Dr.'s definition, which is certainly the correct one, and his symptoms attending complete inversion, and if they do not show the case to have been one of complete inversion, I shall utterly despair of ever proving anything.

My respect for Dr. Dewees prevents my supposing that he would use any unfairness in his criticisms; yet I certainly do not see the correctness and sufficiency of some of his strictures in proving that the cases of Dr. White and Dr. Teallier were not complete inversions. He declares Dr. White's case to have been partial, because the "woman was in great pain and had lost much blood." He adds: "neither of which circumstances attends complete inversion; for it seems to be agreed that there is not much hæmorrhage at this time, and I

know that pain immediatly ceases when it becomes complete, as I shall state presently." "This patient was very faint and no pulse could be felt in either arm;' a condition which constantly attends the partial inversion; especially when the mouth of the uterus contracts firmly upon the body, producing a strangulation of the uterus; which was precisely the situation of Dr. W.'s patient, for he declares 'the neck was a little contracted.' Now, it must be obvious, upon a moment's reflection, that if the inversion were complete, the mouth of the uterus cannot be felt; for this part now offers its opening to the cavity of the abdomen and is not tangible by the finger." (Par. 1286—7.)

I am free to admit that I am not aware of any case of complete inversion being characterized by great pain, but Dr. D. has certainly forgotten to redeem his pledge to show a state in which "pain immediately ceases when it (inversion) becomes complete." I understand, when it is said the patient had lost much blood, that we have a very fair right to infer that the bleeding had abated on Dr. W.'s arrival—"she was in great pain and had lost," &c. After the Dr. had completed the inversion in his second case, would it have been fair or true to have said that the "inversion was not complete because she had lost much blood?" Again: "She was very faint and no pulse could be felt in either arm," "a condition which constantly attends a partial inversion, especially if strangulated." Now, I am truly glad that it is not added that great faintness and extinguished pulse do *not* attend complete inversion, or uterus not strangulated. An examination of his own cases would have shown that strangulation of the uterus was not necessary to produce great faintness and exhaustion, or even death itself. And my first case proves that a complete inversion is no infallible indemnity against the same state. Again, where Dr. White says "the neck was a little contracted," Dr. D. considers it conclusive that the inversion was partial and strangulated, because if the inversion were complete, the mouth of the uterus could not be felt. With due submission, I would suppose there would be no difficulty in determining

that the neck of the uterus was "a little contracted" by feeling that portion of it which was, at the time, external—even if we could not touch the os tincæ. I have no hesitation in saying that the neck, as well as body of the uterus, was contracted in my first case, and that from actual and careful examination, although I could not insert my finger into the os uteri. But in Dr. Teallier's case, there was, on the 10th day after delivery, "a smooth red tumor of the size of a large pear, the large end resting on the thighs, the small tied in the pelvis. No hæmorrhage and little pain." Why was this declared to be a case of partial inversion? "Because the neck of the uterus is charged with the difficulty of reduction, in the first attempts for that purpose."—Par. 1325. If the neck is not the cause of difficulty in all these cases, in the name of common sense, what is? And lastly, Dr. D. proves that a case, recorded in the New England Journal, is also one of partial inversion. "First—Because there was too much hæmorrhage and too many distressing symptoms. Second—Because the author expressly and conclusively determines this point, by saying the neck of the uterus reached above the pubis."—Par. 1307. To the first branch of the proof, it is not necessary to repeat what was said on the same subject when speaking of Dr. White's case. To the second branch we may oppose one part of Dr. D.'s definition of a complete inversion. "When this takes place, the mouth of the uterus is looking upwards, and is within the cavity of the abdomen." I will not say that these are convertible phrases, but I do think that the difference, if any, is too slight to be laid hold on by a liberal critic. I think that a careful and impartial examination of Dr. D.'s criticisms will result in a conviction, that he has failed to prove that the cases referred to, were not cases of complete inversion. At the same time, I candidly acknowledge that it is only since my second case, and a more thorough consideration of the subject, occasioned by the result of that case, that I feel myself authorized to come to a conclusion different from that of the author.

A few words concerning Dr. Dewees' recommendation to

convert a partial strangulated inversion, into a complete one. I expressly disclaim any idea of ability to offer any thing decidedly for or against the proposition; but simply to express some reflections which offer themselves to my mind, upon an examination of the cases above referred to. The object is to relieve the patient from pain, flooding, and the various nervous and distressing symptoms. Its usefulness is founded upon one successful case. But all the cases on record, so far as I know, go to show that all these symptoms attend all cases of inversion, whether partial or complete, strangulated or free; not, to be sure, with equal severity in every case; but Dr. D.'s first case proves that the very worst train of symptoms, and even death itself, may attend a simple dipping of the fundus; and my first shows that the like train of symptoms, and the same result may attend the complete inversion—as I suppose where it was instantaneous, and of course, not strangulated even for a moment. We may suppose it probable that the Dr. himself had no overweening confidence in the remedy, because nearly twenty years after his successful case, he was called to a patient who "was nearly exhausted by hæmorrhage and suffering, and almost pulseless;" yet he "persevered in the attempt at reduction, nearly two hours."—Note to par. 1301. At last he completed the inversion, but the woman died. Thus we see that he truly considered it a dernier resort, and I think we may add "anceps remedium." Perhaps, where there is a strangulated inversion with considerable hemorrhage, upon finding it impracticable to reduce, we might complete the inversion. It is certainly proper to know and recollect what has been the treatment, and result, in as many cases as possible. Burns, in his system of midwifery, refers to the following cases. The appearance of gangrene from strangulation took place. The womb was scarified and the swelling quickly disappeared. The patient got well. In another case, the uterus was mistaken for a polypus, and the ligature applied. The mistake being discovered, it was instantly withdrawn, but the woman died in a few days.

In conclusion. I hope I am distinctly understood as not speaking with authority. I only wish to bring the subject before the profession for their consideration: knowing that they are entitled to the reflections of their most humble member, most especially upon subjects, concerning which the experience of the most exalted must of necessity be very limited.

ART. II.—*A Case of Cataract Complicated with Tremulous Iris, successfully treated.* By WM. M. BOLING, M.D., of Montgomery, Alabama.

The following case of "Tremulous Iris" combined with cataract, I am induced to offer for publication, from meeting with the following passage in Lawrence's Treatise on the Eye. Speaking of the preternaturally fluid state of the vitreous humour, on which the tremulous iris depends, he says:—"Usually this state of the vitreous humour indicates a diseased condition of the internal parts of the eye—and we find that the retina has lost its sensibility in such cases. Such a state of the vitreous humour cannot be remedied, *and if a cataract be present, its removal will not improve vision.*"

Isaac, a negro slave, between fifty-five and sixty years old, of a large and powerful frame, and good general health, twenty-five years ago become entirely blind, soon after which, his left eye was operated on for cataract. A high degree of inflammation followed the operation, and any improvement in his vision was for a long time despaired of. The inflammation, however, subsided, and gradually his sight improved, so that at the end of a year a very useful degree of vision was obtained. He recently changed masters, and his new one, anxious to have his sight improved, if possible, brought him to me for that purpose.

May 29th, 1843.—His eyes presented the following appearance. The pupil of the left eye was clear, and a good deal

dilated. The slightest motion of the head caused the free margin of the iris to float about in a very peculiar manner. A slight movement of the head to the right would cause the left or outer portion of its free margin to become narrowed, or folded on itself so as to appear narrowed—reverse the motion, and the other side would assume the same appearance. Throw the head back and its margin would float forward—or throw the head forward and it would float back. The pupil was almost entirely uninfluenced by light, yet the vision was tolerably good, but had failed some within the last year. In the right eye was a cataract of a white color. The pupil was very much contracted. The iris had the same tremulous motion, but its movements were only backward and forward. This was owing to adhesions between the pupillary margin of the iris and the capsule of the lens. The application of belladonna produced scarcely a perceptible degree of dilatation, but caused the margin of the pupil to have a ragged, uneven appearance. No better effect was produced by the application of the bruised leaves of the stramonium, for several hours to the eye. He had a slight perception of light with this eye, when placed in a darkened room, with one open window, the eye directed towards it.

June 2d.—I operated by breaking up the cataract, which proved to be very soft. After the introduction of the needle, I discovered that the capsule was opaque, and became fully satisfied respecting the adhesion between it and the iris. I separated, completely as I thought at the time, the adhesions, and depressed the capsule, together with some of the larger portions of the lens below the axis of vision. Some small portions of the lens fell into the anterior chamber. Immediately on the separation of the capsule, the pupil became largely dilated. On the withdrawal of the needle, which was much more delicate than the cataract needles in common use, a very perceptible quantity of the vitreous humour followed it. I closed the eye immediately, and did not allow him to open it for several days. The usual means to prevent inflammation in such cases, were resorted to, and so little incon-

venience did he suffer. that happening to call about a week after the operation, I found that he had gone out of his own accord to attend to his usual occupations. I made him return to his room—but from the 20th of June, he required no further attention.

Calling this morning (October 20th, 1843), to examine his case, I find the pupil of the right eye more contracted than that of the left. The *lateral* motions of the iris are now present in the right eye as in the left. A very narrow crescent-shaped portion of the opaque capsule is apparent, bordering the upper fourth of the circumference of the pupil. The rest of the pupil is quite clear. His vision out of the right eye (which is still less perfect than that of the left eye) is such, that, without glasses, he can readily count the number of fingers, or distinguish a pencil, watch-key, penknife, &c., when held up before him.

This case proves that a preternaturally fluid state of the vitreous humour, with tremulous iris, does not in *all cases* imply that the eye is incapable of a very useful degree of vision, or that the removal of a cataract under such circumstances would be entirely useless. The appearance of the iris in such cases is singular and striking, and would seem to depend on something more than a want of support from a softened state of the vitreous humour. To my mind it conveys the idea of paralysis, and this idea is supported by the imperfect manner in which the iris responds to light.

October 20th, 1843.

ART. III.—*Complete Aphonia, successfully treated.* By MARTIAL DUPIERRIS, M.D., of Havana.

J. S. Rosh, aged twenty-six, of Alabama, visited Havana in January last, with complete aphonia.

He stated that in April preceding, he was taken with an

acute pain in the left side, for which he was bled, blistered, &c., which relieved the acute pain, but he was troubled with a dull heavy pain, which, in despite of every remedy prescribed, continued until July, when it extended to the epigastric and right hypochondriac regions. His throat was also attacked about the same time, which soon resulted in complete aphonia; his eyes also became very weak and inflamed. He was then put upon the use of iodine, and a constant counter-irritation was kept up over the chest and epigastric region, by which he got some slight relief from the pains in the side, &c.; the throat, however, remained the same. For the cure of the latter, various gargles, the application of lunar-caustic, &c., were tried in vain. His physicians made every effort to cure him until December; they then advised him to visit Havana, and try the benefit of a milder air, as they discovered whenever the weather became damp and cold, his throat was more swelled both internally and externally, and more painful, with a considerable augmentation of the other pains of which he complained.

After being in Havana a short time and experiencing no relief, he placed himself in the hands of a physician who cauterized the throat internally, three times a week, with a saturated solution of lunar-caustic, and used blisters externally; under this treatment the pain and swelling of the throat was somewhat alleviated, but the loss of voice continued. After trying this treatment six weeks he placed himself under another physician. The latter, discovering considerable tenderness on pressure over the cervical and dorsal vertebrae, and a slight lateral curvature of the spine, with constant twitching of the muscles of the face, thought proper to apply issues to the spine, and prescribe constant rest in bed. The patient, besides, took occasionally carb. of iron, combined with sup. carb. soda. After the issue, which was opened over the middle dorsal vertebræ, had been kept discharging about a month, the pains experienced in the different parts of the body disappeared, save in the throat; his eyes, however, continued weak, there was no diminution in the twitching of the

muscles of the face, and the aphonia continued. An issue was then opened on each side of the neck, just below the lobe of the ear; in a short time the twitching of the muscles of the face ceased; his eyes became less painful and sensitive; and his voice slightly restored so that he could speak in a low whisper. The issue over the spine was then allowed to heal after being kept open six weeks, and he was advised to use the sea-bath daily, which he continued to do for a month. At the end of this time his general health was much improved, there was much less tendency to swelling of the throat and no pain of the body, but the voice was still very feeble.

It was at this period he consulted me relative to the propriety of trying electricity. I advised him first to use a caustic of nitrate of mercury to his throat, and to take internally pills of nitrate of silver, which he agreed to; under the use of these remedies the voice daily became stronger, and in two weeks he could speak quite plainly and without pain. He then left Havana for Alabama, and has since written a letter of thanks to his last two attendants stating that his health and voice were entirely restored.

October 20th, 1843.

ART. IV.—*Remarks on the Cure of Consumption.* By WM. A. M'DOWELL, M.D., of Louisville, Ky.

"Cure of Consumption," or some such title, has, in times past, been assumed by so many swindling empirics, as the title of books or essays, which are mere laudations of themselves and their nostrums—their plasters, pills, or drops—compositions known only to them and some German or Turkish magician, or recommendations of some kind of long horn, valvular tube, or other *respirator* to cure by inflating the lungs—all puffed up and patented to the sole use and benefit of the wonderful discoverer, that it is not at all wonderful

that the medical profession, disgusted with such knavery, should have grown weary of wasting their time in reading works that appear under such titles.

To this circumstance, at least, I am disposed to ascribe a less degree of attention than I think is merited, to a work published by me a. few months since entitled "A Demonstration of the Curability of Pulmonary Consumption," &c. This work is the result of 25 years experience, investigation and labor, in which is set forth fully, fairly, and without reserve, a mode of treatment by which at least a proportion of from one-half to two-thirds of such cases of tubercular consumption (taken as they ordinarily occur to the practising physician) may be cured. Whether well or ill written, the full detail of a course of treatment, which actually effects cures of a hitherto unmanageable disease, merits attention, come whence it may.

The curability of consumption no longer rests on the results of my individual experience. I have, since the publication of my essay, above referred to, received communications from physicians in various quarters, who have cured cases treated on the plan therein suggested. The subjoined summary of which, together with the summary of results in my own practice, I trust will at least suffice to satisfy my brethren of the profession, that it might be as well to give it a trial, as to continue to prosecute the mode or modes of treatment, which so uniformly, through a period of more than two thousand years, have proved so signally unsuccessful. Almost any new method might be as safely pursued, as old ones by which, through so long a period, nearly all cases have been lost

From the 1st of January, 1843, to January, 1844, I have treated 84 cases of consumption; of these 12 have died, and 36 have been cured. A large majority of the remainder under treatment, are either convalescent, or improving; affording a fair prospect of a greater proportion of recoveries than the above.

Of the above cases, 61 were of Kentucky; 7 from Indi-

ana; 4 from Tennessee; 4 from Louisiana; 3 from Mississippi; 1 from Virginia; 1 from Pennsylvania; 2 from Massachusetts; and 1 from New York.

Cures of cases have been reported to me by the following gentlemen:—three by Dr. N. Field, of Jeffersonville, Ia.; two by Dr. Griffith, of Jeffersonville, Ia.; two by Dr. B. H. Hawkins, of Raleigh, Tenn.; one by Dr. J. J. Moorman, of White Sulphur Springs, Va.; one by Dr. Shuck, of Lebanon, Ky.; one by Dr. Jennings, of Baltimore, Md.

Dr. Morgan of Rockbridge county, Virginia, whom I sometimes met in practice whilst I resided in Virginia, and who has for nine or ten years past treated the disease on the general principles suggested in my essay on consumption, informed me in December, that he had cured quite a considerable number of cases, and shewed me some of the rescued persons. He promised me to report his cases for insertion in this communication, but they have not yet come to hand.

January, 1844.

[A list of the names, residences, and present condition of the eighty-four cases in the above summary, which Dr. McD. does not feel himself at liberty to publish, is left at the office of the Western Journal of Medicine for the inspection of physicians or other persons, whose interest in the subject may render them desirous of a more minute investigation of the matter.—Y.]

REVIEWS.

ART. V.—*The Elements of Materia Medica and Therapeutics.* By JONATHAN PEREIRA, M.D., F. R. S. & L. S., Licentiate of the Royal College of Physicians in London; Member of the Royal College of Surgeons; Fellow of the Royal Medical and Chirurgical Society; Corresponding Member of the Society of Pharmacy of Paris; Honorary Member of the Pharmaceutical Society of Great Britain; Examiner in Materia Medica and Pharmacy to the University of London; and Assistant Physician to, and Lecturer on Materia Medica at, the London Hospital. *With numerous illustrations.* From the Second London Edition, enlarged and improved. *With notes and additions.* By JOSEPH CARSON, M.D., Professor of Materia Medica and Pharmacy in the Philadelphia College of Pharmacy, and one of the Editors of the American Journal of Pharmacy. In two vols., 8vo. pp. 714 and 852. Philadelphia. Lea & Blanchard. 1843.

"After a long and tedious discourse," says old Burton, in his Anatomy of Melancholy, "of these six non-natural things, and their several rectifications, all which are comprehended in diet, I am come now at last to *Pharmaceutice*, or that kind of physic which cureth by medicines, which apothecaries most part make, mingle or sell in their shops. Many cavil at this kind of physic, and hold it unnecessary, unprofitable to this or any other disease, because those countries which use it least, live longest and are best in health, as Hector Boëthius relates of the Isles of Orcades, the people are still sound of body and mind, without any use of physic; they

live commonly one hundred and twenty years. Paulus Jovius, in his description of Britain, and Levinus Lemnius, observe as much of this island, that there was of old no use of physic amongst us, and but little at this day, except it be for a few nice, idle citizens, surfeiting courtiers, and stall-fed gentlemen lubbers. The country people use kitchen physic, and common experience tells us, that they live freest from all manner of infirmities, that make least use of apothecaries' physic."

Times are greatly changed in that wonderful island since the days of Paulus Jovius, and of the quaint author of the Anatomy of Melancholy, and men have changed with them. No doubt, now, as then, the "nice, idle citizens" take more than a fair proportion of the apothecary's physic, but the products of the culinary art no longer suffice for the happy inhabitants of the country. Hygeia has ceased to be the propitious divinity, lengthening the days of men to six score years, and the present short-lived race of mortals are doomed to seek succor from the disciples of Esculapius. It were indeed bad for our numerous "flourishing" medical schools, with their crowds of young aspirants after fees and fame, if the consumption of physic were not increasing, *pari passu*, with the growth of our population. The splendid work, the title of which stands at the head of this article, affords indubitable proof of the prosperous condition of the apothecary's art. Here we have nearly sixteen hundred closely printed pages on Materia Medica; not diluted—spun out to make a big book, but pages of condensed matter, the writer being evidently a man who has a just appreciation of the value of time. The author speaks of it as merely a faithful "outline" of this department of medicine, and considering the vast range of subjects embraced in it, it is surprising that the work should have been brought within such reasonable limits. Besides what belongs strictly to Materia Medica, it contains a concise account of the most important modern discoveries in Natural History, Chemistry, Physiology, and Therapeutics, in so far as they pertain to Pharmacology. It is a singularly

complete work. We have heard it objected to, as being too learned for the medical pupils of our country; but, we confess, we like it all the better for its learning. The study necessary to master it will make the more accomplished practitioners. It exhibits the true connexions between pharmacy, chemistry, physiology, and therapeutics, and the reader of Pereira must have a pretty thorough acquaintance with these branches in order to read him with satisfaction. It is the very work, in our judgment, which the wants of the American profession demand. It will give a higher interest to the study of Materia Medica, and enhance its dignity as a branch of medical education, because it is exhibited in this work more fully than ever before, in any English treatise, in its philosophical bearings. Every practitioner ought to supply himself with a copy of it for his own use, and especially for the benefit of his pupils, the thorough study of which should make an indispensable part of their medical education.

Prefixed to the elements is a *Tabular view of the History and Literature of the Materia Medica*, beginning with Egyptian medicine, seventeen centuries before the christian era, extending over all countries where it has been cultivated, and coming down to the publication of Dr. Dunglison's Therapeutics and Materia Medica in the year just closed. This is a fair specimen of the character of Pereira's Materia Medica. It omits nothing. When a subject is barely introduced, such references are given by the author as will enable the curious reader to pursue his researches to the utmost extent of his wishes.

The first part of this work treats of General Therapeutics, including psychical, or mental remedies, as external and internal affections of the mind; and corporal remedies, as the imponderable agents, light, heat, electricity, and magnetism; hygienic agents, as food, exercise and climate; and pharmacological agents, or medicines, the means of ascertaining their effects, their active forces, their physiological effects, their absorption into the living system, their operation by nervous

agency, the parts affected by the remote action of the medicines, the general nature of the effects of medicines, the modification of their effects by circumstances, their therapeutical effects, the parts to which they are applied, and their pharmacological classification. We shall not attempt to follow the learned author in the discussion of all these topics, much less to give an analysis of his matter, which would be impossible in a space much more limited than than that of the work itself, but shall select, here and there, such passages as may appear to us likely to interest our readers, and afford to them, at the same time, the means of judging of the value of these Elements.

Under the head of internal affections of the mind, our author has the following remarks:

"Emotions and passions of the mind have a most powerful influence upon the disorders of the body. Much of the evidence, however, which establishes the truth of this statement, is rather curious than practically useful, and as the general fact is well known and admitted, I shall confine myself to a few practical illustrations. *Hope* is a mildly stimulating or tonic passion, which may be beneficially employed in all diseases, and which proves injurious in few, if in any cases. Most patients receive with satisfaction and benefit, assurances of the prospect of recovery from their medical attendant. Even in diseases of a mortal charcter, life may be sometimes prolonged, by concealing from the sufferer the fatal nature of his malady. I fully agree with the learned President of the College of Physicians, Sir H. Halford, that the first duty of the physician is 'to protract the life of his patient by all practicable means.'"

We do not believe that the physician is required by any obligation to deceive his patients. It is unquestionably his duty to protract their lives to the utmost of his ability, but we can readily suppose that a few hours of painful life might be purchased at too high a price. It is the right of the patient to be informed of his true condition; he has claims upon his physician to deal with him in candor, as well as in gentleness; and we doubt whether a revelation of the truth to the sufferer, if done with tenderness and judgment, has ever giv-

en a fatal termination to disease, or materially shortened life. An amiable weakness of our nature inclines us to deceive the sick upon a question, to them, of the most momentous concern. It is better that we should resist the temptation, and act towards our patients as becomes christians and honest men. But it is no part of our purpose in this article to write a homily, and so we proceed to Materia Medica.

The vitiated air of cow-houses as a remedy in pulmonary diseases, we supposed had gone out of use since the time of Beddoes; but Dr. Pereira publishes a note from his pupil, Mr. Steinhausen, of Saxony, from which it would appear that this remedial agent still holds its ground in that country.

"In Germany," he says, "the balsamic air of cow-sheds is commonly recommended as a preventive in suspected pulmonary disease, or as a means of prolonging life in a confirmed phthisis. Although this latter disease is comparatively of rare occurrence in Saxony, yet several cases have fallen under my observation in which this plan of treatment was adopted. The mode of effecting it has varied according to circumstances: in some cases the patient has merely retired from a crowded town to a farm-house; in others, the sitting and bed-rooms have actually been converted into residences for cows. Of the former I have known several instances, where patients have been greatly benefited by sleeping in apartments built over cow-stalls; and this, I should say, is the most usual plan adopted."

The benefit derived from breathing this air by pulmonary invalids, our author thinks, is referrible in part to its warmth and moisture, but he supposes that the carbonic acid which is also present, may dilute the oxygen of the air and render it less stimulating and hurtful.

Cold, as a curative agent, is treated of with sufficient minuteness, but our author has not recommended it as highly as it deserves to be. The profession is not yet alive to the value of ice, cold drinks, and cold applications in our febrile and inflammatory affections. Many practitioners are to be met with who are still afraid to allow patients laboring under fever, cholera infantum, and similar complaints, the free use of ice. So benign have we found the action of cold in such

cases, that we could wish every writer on Materia Medica to insist upon the application of cooling remedies wherever admissible, as among the greatest improvements in modern medicine.

Under the head of *voltaic electricity*, we find the following suggestion, which if not new to our readers, deserves to be quoted for its ingenuity:

"*To electrolyze urinary calculi.* Prévost and Dumas have proposed voltaic electricity as a means of destroying some kinds of urinary calculi. They state that a fusible calculus, in one case, contained in a basin of water, in another introduced into the bladder of a dog previously distended with water, was completely disintegrated by voltaic electricity, from a battery of 120 pairs. The wires were introduced through a canula into the bladder. The operation, it is said, did not occasion the least apparent uneasiness to the animal. During the action of the battery on the calculus, the bases and phosphoric acid first arrived at their respective poles, then re-entered into combination, forming a pulverulent salt. Bonnet proposed to inject the bladder with a solution of nitrate of potash, and to galvanize the calculus in this liquor. The nitrate will be decomposed; the phosphates dissolve in the liberated nitric acid,—and the uric acid, or urate of ammonia, in the disengaged potash. These propositions are ingenious, but at present no practical use has been made of them."

Of all forms of electrical apparatus, that which is most simple, convenient and powerful, is the magneto-electrical machine, devised by Mr. E. M. Clarke, of London, very perfect instruments of which kind are made in this city, by Mr. Jacob Walter. It is an instrument which deserves the attention of the profession. Interesting cures by its agency are reported in all the journals of the day, and we have ourselves witnessed its beneficial application in some cases of neuralgia. It has the advantage over all other electrical instruments of being independent of the weather, requiring no acid for its excitation, and being always in readiness for action. In suspended animation, whether by narcotic poisons, lightning, drowning, or the mephitic gases, its application would appear to have

been successful under circumstances which would not have admitted of the employment of any other remedy.

We pass over the chapter on Food, as we propose to make the Treatise on Diet by the same author, the subject of an article in a future number. The chapter on Climate is one of great interest to the pulmonary invalid, but the reader must consult the work itself for full information on the subject.

The following remarks on the active forces of medicines have practical interest:

"Chemical changes are sometimes produced in the secretions of distant parts by the internal use of certain agents. Thus the qualities of the urine are modified by the administration of acids or alkalies. These modifications or changes depend, at least in a considerable number of instances, on the chemical influence of the substances swallowed. For when either acids or alkalis are swallowed, they pass out of the system, in part at least, by the kidneys, and in the urine they possess their usual chemical properties, modified by the presence of any substances with which they may have united. Moreover, the qualities which they impress on the urine, are similar to those which they produce when added to this secretion after its evacuation from the bladder. Thus, by the internal use of alkalis, it has been found that the natural acidity of the urine may be destroyed, and an alkaline quality substituted for it: the same condition of urine is produced by the addition of alkalis to this fluid out of the body. Again, the internal use of soda or magnesia may give rise to the appearance of white sand (phosphates) in the urine: and the same kind of deposite is produced in healthy urine by the addition of a few drops of an alkaline solution to it. Furthermore, by the administration of acids (sulphuric or hydrochloric) phosphatic deposits are diminished or entirely prevented, while the employment of alkalis promotes them: and a few drops of hydrochloric acid added to urine, in which the earthy phosphates are suspended, dissolve them. In other words, as the modifications which acids and alkalis produce in the condition of the urine, are precisely those which might be expected from the known chemical properties of these bodies, it is rational to infer that they depend on the affinities of these substances."

The absorption of medicines forms the subject of a highly interesting chapter, but as it is rather speculative than practical, we shall make no extracts from it, nor shall we stop to

notice the chapters on the operation of medicines by nervous agency, and the circumstances which modify the effects of medicines, in which will be found a clear analysis of all that is known on these subjects. We must also pass, without comment, his remarks on pharmacological classification. He treats medicines in the order of their "natural-historical relations," dividing them into two groups, *the inorganized and the organized*, the latter being further divided into two sub-kingdoms, *the vegetable and the animal.*

Oxygen stands at the head of the first class. Soon after the discovery of this gas the most exaggerated notions prevailed as to its remedial powers. Our author supposes it may be useful in cases of asphyxia arising from the inhalation of noxious vapors. An instance of the resuscitation of a dog from drowning by inflating the lungs with oxygen, is recorded by Dr. Muse, in the American Journal of Science and Arts, vol. xvi., p. 250. In the same work, (vol. i., p. 95,) other interesting cases are detailed. On the whole, however, Pereira believes oxygen to be almost useless as a remedy. Of chlorine he has a better opinion. It is used advantageously as a wash in skin diseases, as a gargle in putrid sore throat; as a local bath in liver diseases, and as an application to ulcers attended with a fœtid discharge. Inhaled in chronic pulmonary diseases it is, according to his experience, essentially serviceable in ulceration of the lungs, although useless in tubercular phthisis for which it has been prescribed.

The article on *Iodine* is one which will be read by the practitioner with great satisfaction. This remedy is shown by numerous references to have effected striking cures in bronchocele, scrofula, chronic induration and enlargement of the liver, spleen, uterus, and prostate, parotid and lymphatic glands, gonorrhœa, leucorrhœa, the venereal disease, and many of the affections of the skin. In erysipelas, Pereira has found it highly beneficial. In checking or controlling the ulcerative process, Mr. Key proved it to be one of the most powerful remedies we possess, the most active phagedænic ulcers putting on a healthy granulating appearance under its

influence. In phlegmonous inflammation, sloughing of the cellular membrane, inflammation of the absorbents, gout, carbuncle, whitlow, lacerated, contused, and punctured wounds, and burns, and scalds, authority is cited for its remedial powers. "Its topical uses are, therefore, nearly as extensive as those of nitrate of silver. Moreover, it is used in the same classes of cases, and with the same views." Its uses are well summed up by our author in the following paragraph:

"As a remedial agent iodine is principally valuable for its resolvent influence in chronic visceral and glandular enlargements, indurations, thickening of membranes (as of the periosteum), and in tumors. In comparing its therapeutical power with that of mercury, we observe in the first place that it is not adapted for febrile and acute inflammatory complaints, in several of which mercury proves a most valuable agent. Indeed the existence of inflammatory fever is a contra-indication for the employment of iodine. Secondly, iodine is especially adapted for scrofulous,—mercury for syphilitic, maladies; and it is well known that in the former class of diseases mercurials are for the most part injurious. Thirdly, the influence of iodine over the secreting organs is much less constant and powerful than that of mercury;—so that in retention or suppression of the secretions, mercury is for the most part greatly superior to iodine. Fourthly, iodine evinces a specific influence over the diseases of certain organs (*e. g.* the thyroid body), which mercury does not. These are some only of the peculiarities which distinguish the therapeutical action of iodine from that of mercury."

Under the head of *Water*, he gives the following account of the *Methodus Hydriatica*, or famous water cure, for the application of which he states thirteen or fourteen establishments have been formed in Germany within the last few years:

"The following is a sketch of the regimen usually adopted at these establishments:

"At four, or half past four in the morning, perspiration is begun to be produced, which is done by wrapping the patients, like babies, in swaddling clothes, or like mummies, in large and thick blankets. Perspiration usually begins in an hour, and is kept up by making the patients drink several glasses of cold water every half hour. In many cases, when the per-

spiration is at its height, pieces of cloth dipped in cold water, and previously well wrung, are dexterously introduced under the blankets, and applied to the most diseased parts; these parts, as well as the cloths, grow hot, the perspiration soon begins afresh, and causes a sensation of burning in the part.

"At the end of three hours the blankets and bed are soaked with perspiration; the patients are then conducted into a neighboring room, or to another story, where they take their cold baths; and in doing this they often pass through draughts of air without being inconvenienced. Before plunging into the cold bath, they wash their head and chest; and after staying in it two or three minutes, the patients take a few cups of milk with a little bread, and then walk out upon the mountains which border on the establishment, and drink cold water at the numerous springs which they meet upon their route. About nine or ten o'clock they take the douche, or else walk to the cascades which are in the forests or mountains, and expose themselves to the fall of the water that comes down from a height, and strikes the body with great force. Immediately after dressing, they again drink several glasses of water, and then walk in the open air. (*London Medical Gazette*, for October 12, 1839, p. 111).

"This mode of treatment is recommended for old and young, males and females, and is followed both in summer and winter. It is regarded as a kind of universal remedy or panacea. Thus Oertel (*Die allerneuesten Wasserkuren*, 18 Hefte, Nürnberg, 1829–37), says it is good for affections of the eyes, ears, and teeth, for insanity, epilepsy, hydrophobia, erysipelas, quinsy, bronchial phthisis, inflammation of the brain, chest, or abdomen, faintings, diseases of the liver and spleen, gout, stomach complaints, acute eruptions, hemorrhages, alvine obstructions, &c!"

The most ample information on all the various classes and remedial uses of water is afforded in the section on that subject, but we shall make but one more extract from this part of the work, which relates to a somewhat novel application of water—it is as follows:

"What is called *Water-dressing* may be regarded as a modified and improved form of poultice. It consists in the application of two or three layers of soft lint dipped in water and applied to inflamed parts, wounds, and ulcers;—the whole being covered with oiled silk or India rubber, which should project beyond the margin of the lint, to retain the moisture and prevent

evaporation. Dr. Macartney (*Treatise on Inflammation*, p. 180 London, 1838), considers it to operate differently to a poultice: unlike the latter, he says, it prevents or diminishes the secretion of pus, checks the formation of exuberant granulations, and removes all pain: moreover, the water is not apt to become sour, like a poultice, and does not injure the sound part."

Hydrochloric acid in dyspepsia. "Two facts," says Pereira, "give a remarkable interest to the employment of this acid in dyspepsia—namely, that it is a constituent of the gastric juice; and, secondly, that when mingled with mucus it has the power of dissolving various articles of food." The fact of its beneficial action in some cases of indigestion is as well established, as that of its presence in the healthy stomach, or of its agency in the process of chymification. It is esteemed a good remedy against the phosphatic deposites in urine, and the generation of intestinal worms.

Of *Ammonia*, he says:

"If we compare the effects of ammonia with those of other stimulants, as camphor, wine and opium, we observe, in the first place, that the influence of ammonia is principally manifested in the ganglionic and true spinal systems,—while the other stimulants, above mentioned, affect the cerebral system. Thus the effects of ammonia are usually exhibited on the circulation, respiration, secretion, and spasmodic actions: but camphor, wine, and opium, though they also affect these functions, yet they principally affect the intellectual functions. Secondly, the effects of ammonia are more transient than those of the other agents just referred to. Thirdly, the vascular excitement caused by wine and opium is attended with diminished mucous secretion, and is allied more to an ordinary febrile attack."

The caution suggested as to its continued employment in dyspeptic complaints is judicious. Most practitioners, probably, have seen individuals laboring under dyspepsia injured by the long-continued use of alkalis.

"It is to be remembered," he remarks, "that the healthy secretions of the stomach are of an acid nature, and that the continued use of ammonia or any other alkali, must ultimately be attended with injurious results, more especially to the

digestive functions. While, therefore, the occasional employment of alkalis may be serviceable, their constant or long-continued use must ultimately prove deleterious."

Employed as a vesicatory, our author claims for it two advantages over cantharides—a more speedy operation, and non-affection of the urinary organs. For this purpose the strongest aqua ammoniæ is used. In cases of bites of venomous reptiles and rabid animals, and stings of insects, it is a popular remedy. The relief afforded in the sting of the bee is instantaneous.

In connexion with the natural history of *carbonic acid*, the following curious account of the *Valley of Poison*, in Java, a gigantic *Grotto del Cane*, is given:

"It is a cavity of an oval form, about three-quarters of a mile in circumference, and from thirty to thirty-five feet deep; filled to the height of about eighteen feet with carbonic acid gas. The bottom of it is covered with the skeletons of men and various other animals, who have fallen victims to its destructive operation. If a traveller should be so unfortunate as to enter it, he cannot be sensible of his danger until too late to return. Mr. Loudon thrust a dog in: he fell in fourteen seconds. A fowl thrown in appeared to be dead before it reached the ground."

Creasote is an article which, although in use for a number of years past, may be classed among the *new remedies.*

"As an internal remedy," says our author, "creasote has been principally celebrated, in this country, as a remedy possessing extraordinary powers of arresting vomiting. It has, however, been greatly overrated. It is decidedly injurious in inflammatory conditions and structural disease of the stomach, and frequently fails in allaying the sickness dependent on organic diseases, as of the heart and kidneys. It is most successful in hysterical cases, and sometimes succeeds in pregnancy.

In gastrodynia or flatulence it occasionally succeeds, but is admissible in those cases only in which local stimulants are usually found beneficial. Where both creasote and hydrocyanic acid have been separately tried without success, Dr. Elliotson advises their union."

Its use in tooth-ache is familiar in this country, and exter-

nally it is further applied with benefit to foul and indolent ulcers, and in hemorrhages it is a good deal employed as a styptic. Creasote water is recommended in uterine hemorrhage, introduced into the vagina by means of pledgets of lint soaked in it, and as an application to bleeding wounds and leech-bites. Hemorrhage from the umbilical cord in infants is one of the cases in which creasote is an efficient remedy. We quote from our author other remedial uses of which it is susceptible:

"It has been employed to check caries, to restrain excessive suppuration, and to repress fungous granulations in burns and scalds; to act as a counter-irritant in chronic ophthalmia, in which disease it is sometimes dropped into the eye on the same principle that nitrate of silver and other local stimulants are used; and to remove condylomatous and other excrescences. The inhalation of creasote vapor is occasionally useful in relieving excessive bronchial secretions. Dr. Elliotson cured two cases of chronic glanders in the human subject by injecting an aqueous solution of creasote up the affected nostril."

Pereira cites cases of poisoning by creasote, but the symptoms usually yield readily to appropriate remedies. Mr. O., of this city, 61 years of age, and of infirm health, took a tea-spoonful of the article, which had been got a few days previously from an apothecary to be applied for toothache, on the 11th instant, mistaking it for a mixture of balsam copaivæ and spirits of nitre, which he was using for an irritable bladder. His wife, so soon as the error was discovered, gave him a table-spoonful of melted hog's lard. In a few minutes he took an emetic of ipecac. and tart. antimon., which operated freely. The only symptoms of which he complained were a burning in the stomach and a pain of the head. He used diluent drinks, and gentle purgatives, and was relieved from all the effects of the creasote on the third day, and at the same time found himself free from the irritability of the bladder, for which he had been using medicine. Whether the creasote had any agency in the cure of this affection is not clear.

Under the head of Sulphur, as a remedy in scabies, we find the following remark, from which it will be seen that the ques-

tion as to the origin of this annoying disease in the irritation of the *itch-insect*, is not yet settled.

"But before adopting this explanation of the *modus medendi* of sulphur, it is to be proved that the animal is the *cause* of the disease; for, at present, it has not been satisfactorily shown whether it be the cause, effect, or mere accompaniment of itch. Rayer observes, that it is indubitable that the number of these insects bears no proportion to that of the vesicles. 'It is, farther,' he adds, 'rare to discover these insects on the abdomen and on groins, where the eruption of scabies is nevertheless very common and very apparent; moreover, scabies is known to continue when no more acari are to be discovered.'"

Iodide of Potassium is a remedy of which a very extensive use is now made by the practitioners of this country, as well as of Europe; it is therefore of importance that the mode of testing its purity should be generally understood. Our author says,

"Iodide of potassium is often largely adulterated with *carbonate of potash.* In 1829 I analyzed a sample, which contained 77 per cent. of the latter salt. In one specimen Dr. Christison procured 74.5 per cent. of carbonate of potash, 16 of water, and only 9.5 of iodide of potassium. The impure salt may be distinguished by its wanting any regular crystalline form; by adding a few particles of it to lime-water, a milky fluid is obtained, whereas the liquid remains transparent if the iodide be pure; by its destroying the color of the tincture of iodine, whereas the pure salt does not affect it; and lastly, by alcohol, which dissolves iodide of potassium, but not carbonate of potash."

"The following are the characters of pure iodide of potassium according to the *London College:*

"Totally soluble in water and in alcohol. It alters the color of turmeric either not at all or very slightly. It does not alter the color of litmus. Subjected to heat it loses no weight. Sulphuric acid and starch added together it becomes blue. Ten grains of this salt are sufficient to decompose 10.24 grains of nitrite of silver: what is precipitated is partly dissolved by nitric acid, and partly altered in appearance; which is not the case when ammonia is added."

To many of our readers the subjoined extract will probably be interesting—on the uses of hydriodate of potash:.

"Having so fully detailed the uses of iodine, it is unnecessary to notice at any length those of iodide of potassium, since they are for the most part identical. Thus it has been employed in bronchocele, scrofula, in chronic diseases accompanied with induration and enlargement of various organs, in leucorrhœa, secondary syphilis, periostitis, articular rheumatism, dropsies, &c. As a remedy for the hard periosteal node brought on by syphilis, it was first employed by Dr. Williams, who obtained with it uniform success. At the end of from five to ten days its mitigating effects are felt; the pains are relieved, the node begins to subside, and in the majority of cases disappears altogether. In these cases, Dr. Clendinning has also borne testimony to its efficacy. In the tubercular forms of venereal eruptions, Dr. Williams found it beneficial. In Dr. Wallace's lectures are some valuable observations on the use of iodide of potassium in venereal diseases. In chronic rheumatism accompanied with alteration in the condition of the textures of the joint, it is, in some cases, remarkably successful. As an ingredient for baths, Lugol found the iodide would not answer alone, but that it was useful as a solvent means for iodine."

From the following it would appear that the *Herculean Calomel-practice*, as it has been styled, is not peculiar to our country, nor can the facts given in the quotation be regarded as very unfavorable to that practice in the disease specified:

"The largest quantity of calomel given as a medicinal agent, at one dose, is, I believe, three drachms; 'and it was followed,' says Dr. Christison, from whom I quote the case, which occurred in America, 'by only one copious evacuation, and that not till after the use of an injection.' I have now before me reports of eighteen cases of spasmodic cholera, admitted in the year 1832 into the Cholera Hospital at Bethnal Green, in this metropolis, in which enormous quantities of calomel were employed by the house-surgeon, Mr. Charles Bennett, with very slight physiological effects. When a patient was brought into the hospital, two drachms of calomel were immediately given, and afterwards one drachm every one or two hours, until some effect was produced. In 17 out of 18 cases in which this plan was tried, the vomiting and purging diminished, and the patients recovered. Several of them took from 20 to 30 drachms without the subsequent ptyalism being at all excessive. In one case, 30½ drachms were administered within forty-eight hours; moderate ptyalism took place, and recovery. In the unsuccessful case which I have alluded to, 53 drachms of cal-

omel were administered within forty-two hours, without the least sensible effect."

The chapter on *Iron and its compounds* contains much valuable matter. Of iron, in its relation to that state of the system denominated *anæmia*, in which both the quantity and quality of the blood appear defective, the following remarks possess practical interest—they refer to *chlorosis:*

"If in this condition of system we administer iron, the appetite increases, digestion is promoted, the pulse becomes fuller and stronger, the skin assumes its natural tint, the lips and cheeks become more florid, the temperature of the body is increased, the œdema disappears, and the muscular strength is greatly augmented. The alvine evacuations assume a black color, as they always do under the use of the ferruginous preparations. After continuing the use of iron for a few weeks, we frequently find excitement of the vascular system (particularly the brain); thus we have throbbing of the cerebral vessels, and sometimes pain in the head, a febrile condition of system, with a tendency to hemorrhage. Mr. Carmichael considers the *sanguine* temperament (marked by a high complexion, celerity of thought, remarkable irritability of fibre, and a quick pulse) as depending on an excess of iron in the system; whereas the *leucophlegmatic*, or *relaxed*, temperament (characterized by a pale bloated countenance, dull eyes, mind heavy and slow in receiving and forming ideas, little irritability of fibre, and pulse small and feeble) as depending on a deficiency of iron.

"When by the use of iron the state of the general system improves, the secretions resume their natural condition; and thus at one time we observe this metal promoting the uterine discharge, at another checking it, according as chlorosis or menorrhagia had been previously present; we cannot, therefore, regard the preparations of this metal as having any direct emmenagogue effect, as some have supposed.

"Some refer all the other symptoms of anæmia to the abnormal state of the blood, and ascribe the beneficial influence of iron to the improvement in the quality of this liquid. It is certain that, under the use of the preparations of this metal, the blood frequently acquires a more scarlet color, owing probably to an increase in the number of its coloring particles; and the crassamentum becomes firmer and more solid, and even increased in quantity. This alteration of the physical

and chemical properties of the blood must render it more stimulating, and thus the different organs, receiving a fluid of a more healthy character, resume their normal condition, and perform their functions in a proper manner. Tiedmann and Gmelin have detected it in the serum of the blood of the portal and mesenteric veins of horses and dogs, to whom they administered either the sulphate or chloride. Occasionally, too, iron has been found in the urine. Moreover, Menghini asserts, that the quantity of iron in the blood of dogs may be increased by feeding them on substances mixed with this metal. Furthermore, it is not to be forgotten, that iron exists in no inconsiderable quantity in healthy blood, and is supposed to contribute to its color, and probably to its stimulant properties; so that it is not unlikely any variation in the quantity of this metal would be attended with an alteration in the action of every organ."

The second, and larger volume is devoted to the history of medicines derived from the *organized kingdom.* The details given are so clear and ample, that the practitioner will not often have to seek for further information concerning any of the articles mentioned. As in the description of mineral substanes, all that relates to their natural history, chemical constitution, physiological effects, and remedial uses, is concisely, but so fully related, that it would be difficult to add any thing of value to the descriptions of the author, without going into details of practice inadmissible in an elementary work. Equally difficult, perhaps, would it be to find omitted in these volumes, any single remedial agent of established value. Many of very equivocal claims to any healing virtues are admitted into the catalogue; many are mentioned which are decidedly worthless; and those which the practitioner will probably never employ are introduced by hundreds; but such must be the character of every treatise which assumes to be a complete history of Materia Medica.

The following extract from the article on *Ergot* will afford an idea of the minuteness with which the author details all that is known about a medicinal substance:

"The nature and formation of ergot are subjects on which botanists have been much divided in opinion.

"Some regard ergot as a fungus growing between the glumes of grasses in the place of the ovary. Otto Von Münchausen, Schrank, De Candolle, Fries, Wiggers, and Berkeley, have adopted this opinion, and have described ergot as a fungus under the name of *Spermoedia Clavus.* Fries and Berkeley, however, evidently entertain some doubts respecting its nature; for the first adds to the generic character of Spermoedia, "*Semina graminum morbosa,*" and the second says, "it appears to be only a diseased state of the grain, and has scarcely a sufficient claim to be admitted among fungi as a distinct genus."

"Against this opinion may be urged the circumstance noticed by Tessier, that a part only of the grain may be ergotized. Moreover, the scales of the base of the ergot, the frequent remains of the stigma on its top, and the articulation of it to the receptacle, prove that it is not an independent fungus, but an altered grain.

"Some regard ergot as a diseased condition of the ovary or seed. The arguments adduced against the last opinion are in favor of the present one. Though a considerable number of writers have taken this view of the nature of ergot, there has been great discordance among them as to the causes which produced the disease.

"*Some have supposed that ordinary morbific causes, as moisture combined with warmth, were sufficient to give rise to this diseased condition of the grain.* Tessier and Wildenow appear to have been of this opinion.

"*Some have ascribed the disease to the attack of insects or other animals.* Tillet, Fontana, Read, and Field, supported this view, which, I may add, has subsequently been satisfactorily disproved.

"*Some, dissatisfied with the previously assigned causes of the disease, have been content with declaring ergot to be a disease, but without specifying the circumstances which induce it.* Mr. Bauer, who closely watched the development of ergot during eight years, and has made some beautiful drawings of it in different stages, arrived at this conclusion; as also Phœbus.

"*Others have referred the disease to a parasitic fungus.* This opinion, which must not be confounded with that entertained by De Candolle and others, has been adopted and supported by Léveille, in 1826 by Dutrochet, Smith, and by Quekett."

The remedial applications of this article are stated at much length. We make room for a few quotations:

"Another interesting topic of inquiry is the action of ergot on the gravid uterus of mammals. Chapman says 'it never fails, in a short time, to occasion abortion.' We have the testimony of Percy and Laurent, that a decoction injected into the veins of a cow caused the animal to calve speedily; and in one out of three experiments, Mr. Combes has stated, the ergot caused the abortion of a bitch, Diez found that it caused uterine contractions in dogs, rabbits, and sows. Large doses given to bitches induced an inflammatory condition of the uterus, and destroyed both mother and her young. However, in opposition to these statements, we have the evidence of Chatard, Warner, Villeneuve, and others, who failed in producing abortion with it.

"I am indebted to Mr. Youatt, Veterinary Surgeon to the Zoological Society, and editor of the *Veterinarian*, for the following note respecting the effects of ergot on animals:

"'I have, for the last six or seven years, been in the habit of administering the ergot of rye to quadrupeds in cases of difficult or protracted parturition, in order to stimulate the uterus to renewed or increased action. In the *monogastric*, if I may venture to use the term, I have never known it fail of producing considerable effect, even when the uterus had been previously exhausted by continued and violent efforts. In the *ruminant*, with its compound stomach or stomcahs, I have witnessed many a case of its successful exhibition. I have had recourse to it in the cow, the sheep, and the deer, both foreign and domestic. Parturition has not always been accomplished, from false presentation or other causes, but the uterus has in every case responded—it has been roused to a greater or less degree of renewed reaction. On the other hand, there are cases recorded by veterinary practitioners, in which it has been given in very large quantities without producing the slightest effect. I have always attributed this to a certain degree of forgetfulness of the construction of the stomachs of ruminants. If the medicine, as is too often the case, is poured hastily down, and from a large vessel, it breaks through the floor of the œsophagean canal and falls into the rumen, and there it remains perfectly inert. But if it is suffered to trickle down the œsophagean canal, although a portion of it may still enter the rumen, the greater part will flow on through the œsophagean canal and the manyplies into the fourth or villous stomach, and produce the desired effect.'"

"*Effects on the uterine system.* The action of spurred rye on the uterus *when labour has actually commenced*, is usually observed in from ten to twenty minutes after the medicine has

been taken, and is manifested by an increase in the violence, the continuance, and the frequency of the pains, which usually never cease until the child is born; nay they often continue for some minutes after, and promote the speedy separation of the placenta and the firm contraction of the uterus in a globular form. The contractions and pains caused by ergot are distinguished from those of natural labour by their continuance; scarcely any interval can be perceived between them, but a sensation is experienced of one continued forcing effort. If from any mechanical impediment (as distortion) the uterus cannot get rid of its contents, the violence of its contraction may cause its rupture, as in the cases alluded to by Dr. Merriman, Mr. Armstrong, and Mr. Coward.

"Ergot sometimes fails to excite uterine contractions. The causes of failure are for the most part conjectural. The quality of the ergot, peculiarities on the part of the mother, and death of the fœtus, have been assigned as such. The two first will be readily admitted; but why the remedy should be altogether inert "where the fœtus has been for sometime dead, and putrefaction to any extent taken place" cannot be readily explained. Its occasional failure has been urged by Dr. Hamilton as an argument in favor of his notion that ergot acts "in no other way than by influencing the imagination." But on the same ground the sialogogue power of mercury might be denied. Dr. Hamilton's erroneous estimate of the powers of ergot is referrible to a want of experience of its use; for he admits that he has only had two opportunities in practice of making a fair trial of it.

"There is usually much less hemorrhage after delivery, when ergot has been employed, than where it has not been exhibited. The lochial discharges are also said to be less; but this is certainly not constantly the case. Moreover, it has been asserted 'that the menstrual discharge has not recurred after the use of the ergot in certain cases of protracted parturition.' But the inference intended to be conveyed here, viz. that ergot caused the non-recurrence, is not correct; at least, I am acquainted with several cases in which this effect did not follow the employment of spurred rye, and I know of none in which it did.

"Ergot has been charged with causing the death of the child; but the charge has been repelled by some experienced practitioners as being devoid of the least foundation. 'The ergot,' says Dr. Hosack, 'has been called in some of the books, from its effects in hastening labour, the *pulvis ad partum;* as it regards the child, it may with almost equal truth

be denominated the *pulvis ad mortem*, for I believe its operation, when sufficient to expel the child, in cases alone where nature alone is unequal to the task, is to produce so violent a contraction of the womb, and consequent convolution and compression of the uterine vessels, as very much to impede, if not totally to interrupt the circulation between mother and child.' However, Dr. Chapman strongly denies this charge, and tells us that in 200 cases which occurred in tne practice of himself and Drs. Dewees and James, the ergot was used without doing harm in any respect; and he adds, 'no one here believes in the alleged deleterious influence of the article on the fœtus.' It is not improbable, however, where the impediment to labour is very great, that the violent action of the uterus may be attended with the result stated by Dr. Hosack. Dr. F. H. Ramsbotham has suggested that the poisonous influence of ergot may be extended from the mother to the fœtus, as in the case of opium. He also states that of 36 cases in which he induced premature labour by puncturing the membranes, 21 children were born alive; while in 26 cases of premature labour induced by ergot only, 12 children only were born alive. This fact strongly favors the notion of the deleterious influence of ergot on the fœtus.

"Given to excite abortion, or premature labour, ergot has sometimes failed to produce the desired effect. Hence many experienced accoucheurs have concluded, that for this medicine to have any effect on the uterus it was necessary that the process of labour should have actually commenced. But while we admit that it sometimes fails, we have abundant evidence to prove that it frequently succeeds; and most practitioners, I think, are now satisfied that, in a large number of cases, it has the power of originating the process of accouchement.

"*To restrian uteterine hemorrhage, whether puerperal or non-puerperal.*—Ergot checks hemorrhage from the womb, principally, if not solely, by exciting contraction of the muscular fibres of this viscus, by which its blood-vessels are compressed and emptied, and their orifices closed. The experience of physicians and surgeons in all parts of the civilized world has fully and incontestibly established the efficacy of ergot as a remedy for uterine hemorrhage. Maisonneuve and Trosseau, have shown that the beneficial influence of ergot is exerted equally in the unimpregnated as in the impregnated state; proving, therefore, that the contrary statement of Prescott and Villeneuve is incorrect. Even in a case of cancer of the uterus they have found it check the sanguineous discharge. In females subject to profuse uterine hemorrhages

after delivery, ergot may be administered as a preventive, just before the birth of the child. Even in placental presentations, a dose or two of ergot may be administered previously to the delivery being undertaken. To restrain excessive discharge of the lochia or catamenia, this remedy is sometimes most beneficial.

"*In hemorrhages generally.*—The power possessed by ergot of exciting uterine contractions, readily explains the efficacy of this agent in restraining sanguineous discharges from the womb; but we can in no way understand how hemorrhage from other organs can be influenced by it. We are not, however, to deny the therapeutic power of a medicine merely because we cannot explain its *modus medendi*, though we are justified in requiring abundant proofs ere we admit it. It must be acknowledged, that a considerable number of cases have been published in proof of the power possessed by ergot of checking hemorrhages from other organs (as the nose, gums, chest, stomach, and rectum) than the uterus. But having found it unsuccessful in my own practice, seeing that in the hands of others it has also failed, and knowing how difficult it is to ascertain the influence of remedies on hemorrhages, I think further evidence is required to prove the anti-hemorrhagic powers of ergot."

We shall not multiply our extracts from this elaborate work, of the value of which we are fully aware that no just estimate can be formed from quotations. It is a production which to be appreciated must be seen and examined. That it will command, in this region, as in all other places where it has found its way, it has won, the approbation of the profession, may safely be predicted, and its extensive circulation will be at once an indication and an assurance of an increasing taste for thorough medical knowledge. Such a work cannot be made current without creating a desire for more enlarged information on all the branches of science connected with medicine—a desire which, to a very great extent, it is capable of gratifying. The American editor has added to it whatever was wanting to make it a complete description of the Materia Medica of the United States, and the publishers have got it up in good style. The illustrations are numerous and satisfactory. The table of contents, prepared, we are told, by the wife of the author, is not the least of the

recommendations of a work embracing so vast a range of subjects. The table is so full that the reader will find every article and every topic of discussion mentioned in its place. We cannot doubt that the publishers will be amply rewarded for their enterprise, in bringing out a work of so much excellence. Y.

ART. VI.—*Practical Manual of the Diseases of the Heart and Great Vessels. A work intended to facilitate and extend the study of these Diseases.* By F. A. ARAN, Interne of the First Class of the Hôtel-Dieu, Laureat of the Hospitals, formerly pupil of the Practical School of Medicine, &c. Translated from the French; by WM. A. HARRIS, M.D. Philadelphia. Ed. Barrington & Geo. D. Haswell. 1843. pp. 296, 12mo.

The aim of this little work is a most praiseworthy one. That class of affections, the study of which it is intended to facilitate and extend, has hitherto been much neglected by the profession. We hope this Manual, comprising, as it does, a summary of what has been published in more elaborate works, will be extensively read, and that the study of it may lead to a more correct appreciation of the character of these diseases. A scepticism has prevailed, but too generally, as to the possibility of recognising and curing the complaints of the heart, and hence has arisen the indifference with which they are regarded by many physicians. This incredulity has been strengthened by the differences of opinion among authors respecting such affections. The author of the volume before us, familiar with the treatises of Senac, Corvisart, Laennec, Bertin, Bouillaud, Gendrin, and Hope, and guided by them in his researches, has brought the observations of these authors to the test of clinical experience. "We have not," he says, "adopted servilely the opinions of any one. We make no pretensions to novelty; but we have compared, and,

as well as we have been able, have verified, for ourselves, the observations of others." We believe we shall be rendering our readers an acceptable service by presenting a condensed account of the matter of the Manual.

The author introduces his subject by the very just remark, that a study of the phenomena and all the conditions appertaining to the healthy state of organs is indispensable, in order to understand the various modifications they undergo in disease. Unless we are acquainted with the phenomena incident to the normal state, it is plain that we cannot judge with any degree of accuracy respecting the nature of morbid changes. The good practical rule, therefore, laid down by writers, ought always to be observed, "of uniformly investigating with care, the condition of each individual organ of importance, in every disease of whatever kind and character." By such a course of procedure practitioners would at once recognize any departure of the heart from its normal action, and acquire, at length, the tact in diagnosis upon which must rest any success in the treatment of cardiac diseases.

The first part of the Manual is devoted to the considera- of the anatomy of the heart, the physiology of its beats and sounds, the pathological physiology of the same, the arterial pulsations in their physiological and pathological state, and the sounds of the arteries in their healthy and morbid state. We shall not attempt any abstract of this portion of the work, but hasten to give an analysis of that part which treats of the *pathology of the heart.* Having presented the local symptoms of these diseases in the first part, he thus details the

"*General Symptoms:*—The diseases of the heart exert a very marked influence over the whole economy; nor is it in a narrow and circumsbribed circle that these morbid reactions are produced; but, on the contrary, how numerous are the sympathies which the central organ of the circulation creates in the rest of the organism! It is in consequence of their multiplicity, and the difficulty of referring them to one perfectly settled cause, that we have decided to study the general symptoms in a purely analytical order:

1st. *Congestions.*—The embarrassment of the circulation is marked in the skin, and principally in the face; sometimes

by a violet and livid discoloration, general or local; sometimes by a livid paleness, which has a frightful appearance. It is not an uncommon event, to see the face of a blue color in its whole extent; but it is much more rare to see all the body present this color, except in certain congenital diseases of the heart. The engorgement of the venous system is one of the extraordinary phenomena pertaining to diseases of this organ; but in some circumstances, true beats, of more or less regularity, are observed in the veins near the heart (as the internal and external jugular). As this phenomenon constitutes a very valuable sign in cardiac diseases, it is important to distinguish the swelling of the veins from congestion, from the venous beats, or the swelling from regurgitation of these vessels. It is for the purpose of establishing this distinction, that M. Gendrin proposed a very ingenious process, which consists in making compression on the part of the jugular vein, most distant from the heart. If, in this case, the vessel remains empty and collapsed, the swelling of the veins does not depend on the regurgitation of the blood of the heart into the veins, but from an insufficient depletion of these vessels; if on the contrary, after having forced the blood from below upwards into the external jugular vein, and placed a finger on the most inferior part of this vessel, the blood is seen to reascend in the vein, and there produce pulsations, it may be affirmed, that the swelling of the veins depends on the reflux of the blood which distends the heart. The swelling of the veins with beats does not belong, therefore, to congestion, but rather to regurgitation. These beats, appreciable only to the sight, are perceived especially in the superficial veins of the neck; and sometimes in the internal jugular. They may be simple or double: when *simple*, they are always synchronous with the systole of the heart; when *double*, they are composed of an undulatory tremor which precedes the systole, and by a true beat, synchronous with the systole of the ventricles. The simple pulsations of the veins (*systolic*) may depend, either on a deficiency of the tricuspid valve, or on a considerable dilatation, with hypertrophy of the right ventricle; in this last case, the phenomenon is due to a regurgitation of the blood placed between two segments of the now thin and badly supported tricuspid valve, the motion of which is transmitted to the blood of the auricle and superior veins, (Hope). The double pulsations depend, first, on hypertrophy of the right auricle; second, on deficiency of the tricuspid valve, or on dilatation with hypertrophy of the right ventricle. These double beats

are at their maximum where there is contraction with deficiency of the right auriculo-ventricular orifice. In the mucous membranes, the congestion is not less evident; and hence we see it supervening in the intestinal tube, and characterized by a punctuated redness, or by flakes of mucus in the stomach and intestines. This congestion, which is always dangerous, is announced by anorexia, eructations, severe pains extending through the abdomen, and later by serous diarrhœa, sometimes very abundant, and which is often accompanied by very prominent hemorrhoidal tumors.

"The functional vascular apparatus of the lungs (which is so immediately connected with the action of the heart) is in some measure the first to suffer from alteration of this organ. Hence, it is in the lungs that the first general phenomena make their appearance when they are dependent on embarrassments of the venous circulation; the first of these phenomena is the œdema of the lungs, which is indicated by a dry cough, considerable dyspnœa, evident diminution of resonance at the base of the lung behind, and the presence at this point of a crepitant moist râle with distinct bubbles; and, anatomically, by an increase in the consistence of the pulmonary parenchyma, which is like paste, its pale and greyish color, and in its general infiltration with a yellowish, frothy serosity. It is not uncommon to find, at a more advanced period in the diseases of the heart, the lung tumefied, with an increase of density in certain points, and infiltrated with a yellowish-red serosity, which flows with difficulty. These cases of œdema may be easily confounded with pneumonia; for independently of considerable dulness, there is found either a moist crepitant râle, or a true tubular sound. It is true, that the absence of the rusty sputa, of the symptomatic fever, and of the pain in the chest, prevent us from confounding these two diseases; but these cases are not less troublesome. The pulmonary œdema may manifest itself, and disappear many times; it often alternates with a phenomenon which we shall soon study under the name of colliquative diuresis, and has its maximum of intensity in the cardiac diseases, in which the circulation is found most embarrassed, as in the case of deficiency of the mitral and tricuspid valves. The pulmonary œdema unformily precedes the hydropic effusions which take place in the serous cavities.

"Pulmonary œdema precedes also that state of sanguineous engorgement, in which this organ takes on a reddish-brown color, loses its elasticity, and furnishes after incision a considerable quantity of blood of a violet-brown color. This state of congestion of the lung, which is generally accompanied by

hemorrhage, is characterized by extreme dyspnœa, with partial dulness, and by the moist crepitant râle, as in œdema.

"The liver, which is the centre of all the venous system of the vena porta, and which empties itself by large outlets into the vena cava inferior, suffers more than any other organ from obstacles which oppose the return of venous blood. This congestion of the hepatic organ is made known by considerable tumefaction. On one side, it extends inferiorly below the border of the false ribs on the right, and it descends in front to the level of the umbilicus; it forms a shining tumor, and most often yielding to pressure, which preserves entirely the form of the liver. In another direction, this organ ascends by its convex face, which is rendered evident by auscultation and percussion. The swelling of the liver adds often to the dyspnœa, and it announces almost always incipient ascites, especially when the inferior extremities are in a state of œdema, and there is meteorism of the abdomen. It is never complicated with jaundice, unless the liver be the seat of a phlegmasia: in severe cases, it is accompanied by meteorism, vomitings, diarrhœa, and swelling of the hemorrhoidal veins, with or without hemorrhage. These congestions of the liver are evidently caused by those diseases in which the return of the venous blood is most impeded; thus, they are most often seen in diseases of the auriculo-ventricular orifices, and especially of the left. They are produced more rapidly in proportion as the obstacle is situated near the venous circulation; if it is in the right ventricle, the congestion will happen much sooner than if it was in the left ventricle. Hepatic congestions are most often accompanied with congestion of the lung, since it is through the medium of this organ that the venous circulation becomes arrested. We have already spoken of the congestions which take place in the intestines, and which succeed those of the liver. It is easy to comprehend how this congestion may take place in the spleen, and finally, by degrees, reach, not only all the organs which contribute to form the branches of the vena porta, but also all those which pour their blood into the inferior vena cava. The congestion of these last organs is indicated most commonly by a particular circumstance, noticed for the first time by M. Gendrin, and which consists in the habitual excretion of a quantity of urine, much more abundant than the amount of liquids taken in. It is generally during the night that this excretion is principally abundant; the urine is white, watery, and almost always without sediment; it contains no albumen; its quantity varies with the stage of the disease; but augments as the lat-

ter advances. The *colliquative diuresis* is not always constant; when it does exist, the dyspnœa is generally diminished. The diuresis almost always precedes the anasarca, and is caused by obstacles which are situated at the orifices, and particularly at the auriculo-ventricular ones. It is, however, observed, in some cachexies, in chlorosis, for example.

"The brain is not protected from the congestions which take place in the other organs; the connection which exists between the cerebral affections and the diseases of the central organ of the circulation has always been noticed. Congestion under these circumstances is announced by the following symptoms: dull and continued headache, weight in the head, inclination to sleep, injection of the capillaries of the face and conjunctiva; at a later period succeeds a comatose state, and the symptoms of a paralysis more or less extensive.

"2. *Hemorrhages.*—There is only one step from congestion to hemorrhage. Thus, we see patients who, after having presented, for a long time, symptoms indicative of congestion of the brain, are suddenly attacked with all the symptoms which point out a cerebral hemorrhage, viz: sudden loss of consciousness, circumscribed paralysis, &c. These cerebral hemorrhages and the encephalic sanguineous congestion which precedes them, have been generally considered as the immediate effect of the excessive impulse given to the column of arterial blood by the left ventricle of the hypertrophied heart. We shall examine, under the article *Hypertrophy*, whether this opinion be well founded.

"It is not only in the brain, but much oftener in the lungs, that hemorrhages are observed; as we can readily understand by a knowledge of the situation of the lung. This organ, placed between the right and left side of the heart, receives continually, through the pulmonary artery, the blood which it is to transmit to the left auricle by means of the pulmonary veins; but if any material obstacle exists in one of the orifices of the left ventricle, and especially in the left auriculo-ventricular orifice, the blood which at first stagnates in the left auricle, accumulates gradually in the pulmonary veins which are distended, then in the delicate vessels of the lung. These last either allow the blood to transude on their surface (*hemorrhage by exhalation*), or else are torn to give passage to this liquid (*pulmonary apoplexy*). Of these two forms of hemorrhage, the most common is certainly the pulmonary apoplexy (*pneumo-hemorrhage*). This affection, characterised anatomically by the sanguineous infiltration of a greater or less number of lobules, and by their conversion into black, homogenous tissue, is commonally announced by intense dys-

pnœa, more or less dull pain in the side, palpitations, expectoration, of a brown, and even black blood, dulness on percussion, and by the moist crepitant râle more or less mixed with the tubular sound. In general, pneumo-hemorrhages only supervene in the first periods of the disease of the heart, when the organism is not much deteriorated, that is, in persons who have not had œdema, and who still present all the appearances of good health. At a later period, when the contractility of the heart is enfeebled, and the pulmonary vessels become by degrees habituated to this sanguineous congestion, these hemorrhages become rare.

"Hemorrhages of the liver, and of the gastro-intestinal tube, ordinarily take place at a more advanced period in the diseases of the heart. These, when they are very abundant, often bring temporary relief for a certain length of time; finally, in the last stages of the diseases of the heart, there are sometimes observed sanguineous effusions, in the tissue of the eyelids, for example, and in the sub-cutaneous cellular tissue of the face. These sanguineous congestions may be increased in an alarming manner, and may even take place in the heart itself (Gendrin).

"*Serous Infiltration.*—The serous infiltrations are seen sooner or later in almost all severe diseases of the heart. They first take place in the cellular tissue (*œdema, anasarca*), and later in the serous cavities (*dropsy*); commencing always in parts of circumscribed bodies, especially in the inferior extremities. At first the œdema only supervenes at the end of the day, and disappears on lying down; it induces no change of color in the skin, and only a feeling of oppression; it preserves a long time the impression of the finger; but in proportion as the infiltration progresses and advances to the trunk, it no longer disappears completely on lying down. The œdema next occupies the cellular tissue of the parietes of the thoracic and abdominal cavities; and it may even become general. When it shows itself in the superior extremities, it is especially the right which is the most affected. We have for a long time sought for the reason of this. May it not be owing to the habit which patients have of lying on the right side, and consequently rendering it lower?

"To this general anasarca is added very often considerable dyspnœa, proceeding from the pulmonary œdema, which is a constant attendant, as well as from the infiltration of the thoracic parietes, which concurs to embarrass considerably the movement of the muscles. The anasarca is always accompanied by a considerable deterioration of the functions. The organs which only receive very poor blood fall into a state of

inertia; the muscles become atrophied; the skin and all the mucous membranes become dry; the renal secretion diminishes; so that, when we have succeeded in causing the anasarca to disappear, we always find the strength of the patient so enfeebled, and the general complications so aggravated, that there is little hope of re-establishing the healthy organism. It is only when the anasarca has increased to a very great extent, that infiltrations take place in the serous cavities; they are at first effused into the peritoneal cavity, then into that of the pleura and pericardium, and sometimes even into that of the arachnoid.

"These serous effusions add to the gravity of the primary disease: the ascites renders the respiration more difficult, increases the embarrassment of the circulation in the abdominal vessels, induces vomiting and constipation; the hydrothorax diminishes the extent of the pulmonary surface, contracts or diminishes the space for hematosis, and increases considerably the dyspnœa; the effusion into the pericardium augments the irregularity in the movements of the heart; and the serous effusion into the arachnoid, which throws the patient in a state of profound coma, often puts an end to his agonising sufferings.

"4. *Gangrene of the Extremities.*—Gangrene of the extremities is sometimes seen in individuals of an advanced age, as a complication of the diseases of the heart. It only happens at a very advanced stage of the disease, when the whole organism is much deteriorated; that is, when the anasarca is constantly reproduced, and when the patient is much emaciated and complexion deteriorated; it most often happens after scarifications of the inferior extremities; the presence of œdema is always one of the principal causes. Sphacelus commences ordinarily in the skin of the toes or fingers, which are covered with livid spots, or in the lips of the scarifications, which become black; at the same time the limb is the seat of acute pains, with a feeling of coldness; the spots increase in extent; phlyctenæ are formed, and the sensibility is extinguished in the points where the epidermis is raised. These spots rapidly ascend to the trunk in increased numbers, and below them the skin is always mortified. In proportion as the disease extends superiorly, the pulsations of the artery in the limb affected cease to be perceived, and the arterial tube is converted into a cord filled with coagulated blood. The veins of the limb become nearly effaced, and are only recognized by black lines which furrow the surface of the limb; at the same time, the beats of the heart grow feebler; then fol-

lows adynamia, wild delirium, eschars on the sacrum and great trochanters; finally, the patient dies comatose seven or eight days after the invasion of the sphacelus. Such is the gangrene which is a consequence of diseases of the heart. Gangrene of the extremities may also be caused by diseases of the arterial tubes; it is this species that the surgeons have described under the name of *senile gangrene;* but this is not the place to speak of it.

"5. *Dyspnœa.*—The serous and sanguineous congestions which almost always have their seat in the lungs, and the difficulty of hematosis, which is a consequence of them, produce always some difficulty in the respiratory functions. The patients do not at first take notice of their dyspnœa; afterwards they find that they are much out of breath when they take exercise. It is not rare to find, in the working classes, and in children, individuals who present the physical signs of severe diseases of the heart, and yet they say that they have never felt dyspnœa. The reason is, that these individuals pay little attention to their sensations, and that, as the dyspnœa comes on gradually, they become accustomed to it, and never think that they are afflicted with any disease.

"The dyspnœa increases continually, and often imposes on the patients the necessity of preserving the most absolute repose. This affection is not always felt to the same degree. When at rest, the patients suffer little or none; but deviations in diet, moral emotions, and corporeal labor increase its intensity. It has not always the same causes: sometimes it is due to the sanguineous or serous congestion of the bronchial mucous membrane; sometimes to a chronic bronchitis, or to a very marked pulmonary emphysema. But the fixed cause of this dyspnœa is always found in the insufficient oxygenation of the blood; either because the air only penetrates the aërial vesicles and bronchial ramifications in a very small quantity; or because the permeable state of the mucous membranes prevents the blood from being sufficiently exposed to the action of the air; or, finally, because the blood does not flow in sufficient quantity into the pulmonary vessels.

"Dyspnœa is generally one of the first signs of diseases of the heart; sometimes it is habitual, and sometimes it is paroxysmal. Most commonly habitual, it also presents exacerbations. It is this last which constitutes one of the great varieties of asthma, that is called *cardiac asthma.*

"*Cardiac asthma* presents various characters; sometimes it is *humid,* for example, when the lungs are in a permanent state of engorgement, as happens in the case of contraction of the

left auriculo-ventricular orifice; it is *dry* when the engorgement of the lung is only temporary, as happens in simple hypertrophy; finally, it may be *convulsive.*

Sometimes the attacks of asthma come on suddenly; sometimes (in severe cases, for example), they are announced by some precursory troubles, as feeling of weight in the epigastric region, distension of the abdomen, pain, oppression, constriction in the forehead with some beating, and an indefinable sensation of oppression and anxiety in the præcordial region. At other times, the invalid is uneasy, irritable, morose, and it may be apathetic or melancholy. Whatever was his previous state, the attack begins in the following manner: the patient, if he is lying down, wakes up suddenly with violent palpitations, with an agonizing sensation of oppression in the præcordial region, and a considerable tightness in the chest, as if it was forced in a vice: he raises himself upon his seat and demands instantly air: the respiration is noisy, and is accompanied with violent efforts of all the respiratory muscles; the inspirations are long, the expirations short and imperfect; the whole external surface feels cold; the face is pale or livid; the pulse frequent, small, feeble, often irregular and intermittent. In proportion as the attack loses its intensity, the oppression and tightness of the chest diminish, the respiration becomes less frequent, less loud, and less labored; the pulse slower, fuller, and more regular; the patient retains only a slight constriction of the chest, and a slightly noisy respiration. Finally, the attack terminates by a very abundant expectoration of a viscid liquid, which is transparent, or by a considerable diaphoresis; sometimes by a copious evacuation of pale and clear urine. As long as these evacuations, which constitute the crisis of the attack of cardiac asthma, and which announce the disengorgement of the pulmonary system, do not take place, it is to be feared that the attack will soon reappear. In general, the attacks of asthma are more complete if the obstacle to the circulation is great, and the pulmonary congestion continues long. Thus, in the case of disease of the valves with considerable dilatation, the attacks often last for five or six hours. In proportion as the organic disease of the heart progresses, the attacks of asthma, which at first only returned at distant intervals, come nearer to each other; the respiration, always short, is now quick and laborious from the least exercise, or from the least moral emotion; finally, in the last period of this disease, the cardiac asthma is persistent. Unable to remain in the horizontal position, the patients remain for weeks and whole months in almost a vertical posi-

tion, and sustained by pillows, their body bent forward, their elbows placed on their knees, their eyes widely open and staring; their eyebrows raised, and their nostrils dilated. Their features are dark and haggard, and their head is drawn backwards at each inspiration; they cast around them a mingled look of horror and entreaty; sometimes praying with an almost inaudable voice, and with plaintive cries, or in feeling and broken accents, for the assistance which has been freely administered to them in vain: sometimes accusing the impotency of medicine; sometimes, finally, in the agony of despair, letting their head fall on their chest, and murmuring a fervent request that death would put an end to their sufferings. For some hours, sometimes only for some minutes, they experience a delightful interval of calmness. They flatter themselves with the hope that their distress is passed, and their cure is at hand; but this hope soon vanishes; the short sleep which they enjoy is interrupted by the horrors of an unfortunate dream; they raise themselves up, uttering piteous cries. Finally, the respiratory muscles, overcome by the efforts that the instinct of self-preservation has imposed upon them for so long a time, participate in the general exhaustion, and refuse to fulfil their functions. Then the patients expire in the midst of a last inspiration, (which is most rarely the case), or fall exhausted on their bed; the respiration in this case is short, raucous, almost absolutely diaphragmatic; the skin becomes violet, the pulse almost imperceptible, and the patients fall into a state of comatose asphyxia. This comatose state may last some hours; we have seen it last for three days.

"6. *Nervous Disorders.*—We include under this head all those disorders of innervation which have an influence either over the general or special sensibility of certain organs and tissues. Amongst these disorders, we notice especially acute pains which the patient experiences in the epigastric region when he partakes of the indulgences of the table; and which are accompanied by eructation in all cases. We must also notice those pains which radiate from the epigastric region towards the left shoulder, and which are accompanied by more or less painful numbness in the superior extremity of the same side (*angina pectoris.*) These pains may not at first descend below the deltoid muscle, but they soon extend along the internal part of the arm to the elbow, sometimes even to the extremities of the fingers, following the course of the cubital nerve. Their duration is almost always short: when they are prolonged, they give rise to a suffocating dyspnœa, to violent palpitations, to syncope, and even to convulsions.

Generally the attack is induced by all the causes which excite the action of the heart, as walking, running, the pleasures of the table; it seldom lasts more than ten minutes, and still more rarely continues for half an hour or an hour: in this last case the danger is imminent. *Angina pectoris* is only present in very advanced and severe disease of the heart. It is at its maximum in cases where there are osseous or cartilaginous and steatomatous degenerations of the heart and large vessels, or where there is hypertrophy and considerable dilatation of the organ with or without softening of its parietes."

We copy next his remarks on the *mode of investigation in the diseases of the heart:*

"One of the causes which has most retarded the progress of the pathology of the heart, is certainly the want of method in the investigation of the morbid changes of this organ. The diseases of the heart are composed of a number of phenomena, all having a particular signification. It is necessary, therefore, to proceed to their examination in a methodical manner, in order that none of them may be omitted. This is the mode which appears to us most proper; it is similar to that which M. Gendrin has followed.

"To examine properly patients affected with diseases of the heart, it is necessary to place them in an almost horizontal position; to take away all clothing that may either embarrass the motions of the chest, or produce artificial sounds by friction. It is preferable to examine them in the morning, after sleep. It is necessary to uncover all the præcordial region in men, and place only very fine linen on the anterior surface of the chest in women.

"We must first find out, by the sight and touch, that there is no anomalous tumor seated in the præcordial region, and that the thoracic cavity presents no kind of deformity; then applying the hand over the præcordial region, we must try to find exactly the seat of the apex of the heart, and its distance from the axis of the sternum. At the same time we must judge, by the hand applied over the heart, of the force, the extent, the number, the duration, and the regularity of the beats or impulse of this organ. A knowledge of the position of the apex of the heart is one of the most important elements in diagnosis, since it permits us to determine the length of the organ, by measuring the distance which separates this point of the thorax from the intercostal space where we have said that the base of the heart is invariably fixed.

"We then make percussion over the præcordial region, by striking lightly, with one or two fingers of the right hand on one of the left hand, applied immediately over the intercostal spaces.

"We thus estimate the extent and degree of dulness, and at the same time also the position of the anterior border of the lungs, the volume of the heart, and that of the pericardium.

"We pass, next, to the auscultation of the præcordial region. In this examination, the ear is most often made use of; although when we wish to limit the surface to be auscultated, or when the structure of the parts opposes the immediate application of the ear, the stethoscope is used. The form of this instrument is not of much consequence, provided that its ligneous fibres be continuous from one extremity of the cylinder to the other. The rules to follow for the application of the stethoscope in the diseases of the heart, are the same as those for diseases of the chest; it is only necessary to take out the top, which Laennec added to it. The first thing to do in the auscultation of the heart, is to isolate it as much as possible from the sounds which take place in the chest. When these are very intense, it is necessary to tell the patient to hold his breath for a few minutes: applying then the ear over the place where the apex of the heart is seated, we hear sounds, and can determine the modifications which they experience in their force, extent, tone, duration, and rhythm, as well as the modifying anomalous sounds, by referring them to the two functional acts and to the two sounds of the heart. From the apex of this organ we extend the examination to the left, at first transversely, then ascending to the border of the pectoralis major, and descending to the inferior limits of the left hypocondrium (as it is in this space that we find the maximum of the sounds which are produced in the left ventricle), in order to examine whether the normal or abnormal sounds increase or diminish in going towards this point, whether any anomalous sounds are added, taking into account the respiratory phenomena, and the transmission of sounds which may take place in consequence of a disease of the left lung. We then go to the right, and within the space from the apex to the sternum (maximum point of the sounds which take place in the right ventricle), examine the modifications in the phenomena which are perceived at the apex. In this last examination, we must take care, and not be misled by one cause of error. The anomalous sounds of the aorta are often perceived at this point, and may be mistaken for anomalous cardiac sounds. To avoid this error it is suffi-

cient to remark—1st. Their constantly synchronous character with the systole of the heart, which belongs to the aortic murmurs. 2d. Their extension over the whole course of the sternum, often even under the linea alba; whilst the murmurs of the right side of the heart may be systolic or diastolic, and never are prolonged to this extent.

"Setting out again from the apex of the heart, we ascend from below upwards, over the course of this organ to its base. In our progress, the modifications which the normal sounds undergo, and the changes taking place in the anomalous ones as heard at the apex, are rendered evident. We make the same examination when we have reached the base, and we note in the course of the pulmonary artery, then of that of the aorta and its ramifications, what modifications the normal or abnormal sounds undergo; and whether new ones are developed. We follow these sounds, particularly in the brachio-cephalic trunk, the subclavian, the external primitive carotid, sometimes the internal, by applying the stethoscope on the base of the orbit, as M. Gendrin does. We then follow the course of the aorta in the abdomen, and of its iliac and crural branches.

"The investigation to be made respecting the arterial circulation demands much care. Thus, when we examine the arteries which are enclosed in the thoracic cavities, we must, as much as possible, isolate the sounds of these vessels from the respiratory sounds, and especially from the normal and abnormal ones of the heart. In the abdomen, we must also distinguish the arterial sounds: 1st, from those of the heart, which latter sometimes extend even to the abdomen; 2d, from intestinal borborygmi; 3d, from the muscular sound which is developed in the abdominal parietes when they are not sufficiently relaxed, and when they contract under the pressure of the stethoscope. When, on the contrary, we examine arteries which are only covered by soft parts, there are some especial precautions to take. We must not press too much with the stethoscope, nor relax the parts which cover the artery. When we auscult the arteries of the neck, the patient should have his head supported by a pillow, and a little stretched, but the face turned forwards. Next we must examine by making the parts tense: in the neck we turn the head to the side opposite to that on which we examine, raise the chin, &c., to ascertain whether the modifications of the arterial sounds are similar on both sides. At the same time we recognise by the touch the state of these arteries; we study the effects of pressure on them, the modifications of the

beats, in their force, frequency, and rhythm. Resuming the exploration of the trunk behind, we ascertain, over the course of the lateral parts of the spine, whether the sounds of the heart and great vessels are heard in these points, and what are the modifications which they have undergone.

"Finally, we conclude by noting the color of the face, the state of the cutaneous capillaries, and of the different mucous apertures, the state of the pulse in different parts of the body, the condition of the viscera; at first of the lungs, then of the abdominal contents: we carefully note, also, the state of the abdomen, the presence of infiltrations, or serous effusions, &c.

The author speaks of the affections of the heart under three heads: *inflammatory diseases; organic diseases; and nervous diseases.* Under the first are embraced pericarditis, carditis, endocarditis, and arteritis; under the second, hypertrophy, atrophy, and dilatation of the heart; partial dilatation or true aneurism of the heart, softening, induration, excessive adipose deposit and fatty degenerations of that organ; osseous, cartilaginous, and other accidental productions in the muscular tissue of the heart, and on the pericardium; diseases of the valves and orifices of the heart, aneurism of the aorta, of the pulmonary artery, and malformations of the heart; and under the third, palpitations and syncope, to which an appendix is added on hydro-pericardium, hemo-pericardium, and pneumo-pericadium, and on polypi, or sanguineous concretions of the heart.

Passing over the symptoms and causes of pericarditis, we quote the remarks of our author on its

"*Diagnosis.*—When the pain is seated in the præcordial region, and is aggravated by pressure; when there is increased action of the heart, and a violent febrile reaction, the existence of pericarditis may be suspected. If, besides, the pulse is feeble, trembling, irregular, &c., without our being able to detect the cause; if we observe all the signs of embarrassment in the circulation: and finally, if there is dulness on percussion, and obscurity in the sounds of the heart, there can be no doubt of the existence of pericarditis. But it may so happen, that there is neither pain nor considerable change in the pulse, no difficulty of respiration, no dulness apprecia-

ble by percussion, nor feebleness of the sounds of the heart. If, however, the beatings of the heart be violent and bounding without any manifest cause; if there be anxiety and a high febrile reaction; and finally, if we recognize the friction sound of the pericardium, there is little danger of our being mistaken in diagnosticating pericarditis. As we have already seen, the diagnosis of acute pericarditis, in which we are assisted not only by general symptoms, but also by the results of percussion and auscultation, presents great precision. The most difficult cases are those complicated with diseases of the brain and other organs, and which divert the attention that ought to be given to the examination of the heart. We may say plainly, if it was a general custom to place the hand over the præcordial region, as often as it is placed on the pulse in all inflammatory diseases; if the heart was examined with as much care by percussion and auscultation as the lungs are, it would be a rare occurrence to mistake a pericarditis. This pretended diversity and variability of the symptoms, in which most of the pathologists now place the cause of obscurity of pericarditis, are still not without value in throwing light on the disease. Although they may cause temporary hesitation in the mind of the physician, yet they furnish valuable indications. These multiplied variations are in a direct proportion to the nature and progress of the anatomical changes of structure, and consequently to the progress and the stage of the disease. Generally, it is in the difference of the quality and quantity of the effusion that we must seek the difference in the aspect of the symptoms. If the effusion consists principally of plastic lymph; if the serosity has been rapidly absorbed; in a word, if the adhesions of the pericardium are rapidly formed, the movements of the heart present, during the whole period of the disease, the same vigor and regularity as at the beginning; the pulse retains its characteristic force, hardness, regularity; the patient is less constrained in his postures, and life may continue for several weeks, even though the inflammation has not been removed. This mild form of the disease is observed still better when, instead of producing adhesions of the pericardium, it rapidly progresses to the state of resolution. If, on the contrary, the serous effusion be not absorbed, the movements of the heart are impeded by the mechanical compression of the liquid on this organ; and hence ensue a small, intermitting pulse, and all the symptoms which announce embarrassment of the cardiac circulation, such as feebleness, dyspnœa, anxiety, coldness of the extremities, lividity of the integuments, &c. If the serous effusion be

abundant at the beginning, all these symptoms manifest themselves early in the disease; but as, in general, two or three days are required for a considerable accumulation of the liquid, to those which we have just described, suddenly succeed the symptoms indicating a strong and regular action of the heart. It must, however, be confessed, that there are certain cases of pericarditis, in which all the symptoms of difficulty of the circulation are observed, and there is still very little effusion of liquid. In most of these, there are very thick false membranes which act on the heart, in the same manner as the effused liquid; in other cases, it is impossible to explain the occurrence of the accidents otherwise than by supposing complications of other cardiac affections (carditis, endocarditis, polypi of the heart), or of the pulmonary organs (pleurisy or pneumonia), or by an increase of irritability. According to M. Bouillaud, the great differences observable among the general symptoms of pericarditis depend rather on a violent pleuritic or pleuro-pneumonic complication, than on the pericarditis itself. No doubt these complications aggravate the symptoms, and impart to them the highest degree of intensity; but this opinion of M. Bouillaud cannot be admitted in an absolute manner, since we often see pericarditis with dangerous symptoms, without any trace of complication. We have now considered the general diagnosis of pericarditis; there yet remains to be noticed the differential diagnosis.

"Pericarditis can only be confounded with inflammation of some one of the thoracic viscera, and especially of the pleura. These complications which, from the time of Corvisart, were one of the greatest obstacles to the diagnosis of pericarditis, no longer embarrass us, since the introduction of auscultation. It is well known that pleurisy, independently of the general signs, is recognized by the following physical ones: dulness on percussion, commencing at first in the posterior and inferior part of the chest, and only extending forwards at a later period in the disease; diminution or complete absence of the vesicular murmur in all the points which are the seat of the dulness; bronchial respiration, and œgophony, when there is only a small quantity of liquid. Pneumonia, besides these general ones, and in particular rusty and viscid sputa, is announced by the following signs: in the first stage, crepitant rhonchus, and commencing dulness on percussion; in the second stage, cessation of the crepitant rhonchus, and of the respiratory murmur; dulness evident on percussion; tubular sound and bronchophony; slight dilatation of the affected side, increase of the vibratory tremor of the voice. In fine,

bronchitis is recognized by the presence of mucous, sibilant, and sonorous rales, and by the absence of anomalous dulness. If no one of these sounds be found, we are forced to the conclusion that the heart is the seat of the disease; but if, on the contrary, some of them are recognized, they should be compared with those which properly belong to the inflammations of the pulmonary organs, taking also into careful consideration the anomalous sounds which supervene in the heart, as well as the direction in which the dulness is perceived. After all, if we are in doubt, it would be proper to act as if this inflammation existed, adapting, at the same time, the treatment to the pulmonary complications as they arise; because it is much easier to subdue the diseases of the heart at their commencement, than when they have long had hold of this organ. There remains the differential diagnosis of endocarditis, which will be considered in the following chapter.

"The obscurity of the symptoms of chronic pericarditis, and especially of this disease at its commencement, renders its diagnosis more difficult than that of acute pericarditis. Notwithstanding, with the aid of auscultation, these difficulties in a great measure disappear. In short, if a patient, who had not had previously disease of the heart, presents all the symptoms of this disease, with general emaciation and hectic fever; if he refers the attack of the disease to a blow or fall on the chest, to acute articular rheumatism, or to an inflammation with pain in the præcordial region, we may suspect chronic pericarditis; if to all these symptoms be added dulness on percussion, or the pericardiac friction sound, no doubt can exist respecting the existence of this disease."

Nothing concerning the treatment of the disease is submitted which would be new to the American practitioner. An inflammatory affection of such a part imperiously calls for antiphlogistic measures.

General carditis, Aran thinks, is not so rare a malady as Laennec supposed it to be, and he is inclined, with Bouillaud and Professor Gross, to refer to inflammation of the heart, the softening as well as the induration frequently met with in that organ. He gives the following symptoms:

"The disease begins by a peculiar uneasiness of the præcordium, with slight pain in this region; palpitations, at first fugitive, and of slight intensity, soon followed by irregular movements; but, notwithstanding these symptoms, the sounds

of the heart are not notably altered, except in their intensity; the dulness of the præcordial region being in its normal condition. Fever is soon lighted up; the pulse becomes strong, full, and resisting; there is difficulty of respiration, with orthopnœa, and extreme anxiety. To this reaction succeeds a period of depression; the sounds of the heart, before so violent, become intermittent; the difficulty of circulation is extreme; the face is flushed; the extremities are œdematous and cold; the dulness of the præcordial region increases in consequence of the congestion of the heart; the lungs are gorged; the pulse is feeble and fluttering; and the patient dies by a species of asyhyxia."

Partial carditis is characterised sometimes by softening or induration of the heart; sometimes by the existence of abscesses or ulcerations on one of its surfaces. Abscesses are more rare, according to our author, than ulcerations; and neither afford any sign by which they can be distinguished from other affections of that organ. Ruptures of the heart are owing most frequently to ulcerations; the other conditions which give rise to it are, ordinarily, softening or fatty degeneration. The author adds,

"These ruptures are most frequently produced by causes depending on violent efforts, paroxysms of anger, external violence, &c. They are announced by the following signs: pungent pain in the præcordial region; loud cries; great paleness; instinctive contraction of the extremities; syncope, though sometimes this affection comes on later; and the invalid, after having remained more or less time in this state, is seized with symptoms of reaction, which causes death in a few hours. According to many authors, in more fortunate cases, all the symptoms are observed to lose their severity; the respiration and circulation are established; the blood is absorbed; a cicatrix forms at the point of rupture, and a cure takes place in fifteen or twenty days. As ruptures of the heart kill almost instantaneously, it is always difficult to recognize the disease before the patient has died; however, when death does not take place so rapidly it may be suspected from the presence of the preceding signs, and of those which announce an effusion into the pericardium. Ruptures can only be confounded with sudden apoplexy, ruptures of the diaphragm, rupture of the large vessels of the chest, or with syncope. Apoplexy, whatever be its intensity, does not immediately stop the beatings of the heart, and these preserve their normal charac-

ter; ruptures of the diaphragm do not kill in so sudden a manner; syncopes do not prevent the pulsations of the heart from being heard, and they cease often, in a certain space of time, by posture and stimulants, &c.; there remains a rupture of the large vessels, especially in the pericardium, which it is impossible to distinguish from rupture of the heart, otherwise than by the antecedent symptoms."

Endo-carditis is the name given to inflammation of the internal membrane of the heart—a disease mentioned by Corvisart, Laennec and others, but which has been investigated with peculiar ability by Bouillaud, who pointed out the coincidence between this affection and acute articular rheumatism. We again copy from the Manual our author's remarks on the diagnosis of the disease:

"As a general rule, when called to a patient presenting, 1st, a violent febrile reaction; 2d, an active impulse of the heart; and, 3d, an intracardiac murmur (blowing sound) which did not exist before, we may admit the existence of endocarditis.

"There is one point on which we insist; it is the differential diagnosis of pericarditis and endocarditis; independently of some differences in the general symptoms (as the greater intensity of pain in pericarditis, and the rapidity with which dangerous complications supervene), the differential diagnosis of these two diseases rests, in a great measure, on the dull and stifled character which the sounds of the heart present in pericarditis, and on the differences which exist between the friction sounds belonging to the pericardium, and the valvular murmurs. Now is the time to make known the differential characters of these two sounds:

Valvular Intra-cardiac Murmurs.	*Friction Sounds.*
1st. The valvular murmurs are always deeply seated and distant.	1. The friction sounds are always superficial, and take place immediately beneath the ear.
2. They are commonly simple.	2. They are most often double.
3. They generally have a soft character (that of the bellows sound), at least in acute endocarditis.	3. They are rough, and when they coincide with the valvular murmurs, they are perceived, in some measure, through the medium of these last.
4. The murmurs with the second sound, or diastolic, are very seldom rough.	4. The diastolic sounds which present rough characters are probably friction sounds.
5. The valvular murmurs once established, very slowly change their nature, and never their seat.	5. The friction sounds rapidly and frequently change their nature and their seat.

Of the treatment, the author remarks,

"The treatment of acute endocarditis ought to be neither less prompt nor less vigorous than that of pericarditis. We must not be misled by the apparent lightness of the symptoms, and we should never forget that an organic disease of the valves, whose development it is necessary to guard against, may supervene.

"When called to a case of endocarditis in the commencement, if the patient is well constituted and young, the antiphlogistic treatment should be rigorously made use of; repeated bleedings, after the method of M. Bouillaud, will be required, and produce the best results. When the patient is feeble, or very old; when he is affected with a former disease, or under the influence of some debilitating operation, it is proper to try only one general bleeding, and to renew local bleedings (leeches, cups); in some cases where endocarditis is only a very feeble element of the disease (as in certain acute articular rheumatisms), we may, when the general symptoms are not severe, limit ourselves to the treatment of the primitive affection. We have seen rheumatic endocarditis cured under the tratment directed against the rheumatism.

"When we have exhausted, without any beneficial result, all the antiphlogistic measures against endocarditis, such as general and local bleedings, diluting drinks, cataplasms, general baths, rest, and diet; or when fulness, or some particular conditions contraindicate their application, it is proper to have recourse to repeated blisters over the præcordial region. This is an excellent measure, and if we place on the denuded surface of the skin from 30 to 40 centigrammes of powdered digitalis, we may often notably diminish the feeling of uneasiness which the patient experiences in the region of the heart. It is almost always proper to add to the employment of blisters that of revulsives to the intestinal canal; and finally, when there is danger of the endocarditis passing into the chronic state, a deep cautery, which will suppurate and keep open, over the region of the heart, in order to exercise a powerful revulsion, at the same time that the patient is placed in a state of absolute rest, and submitted to cooling regimen. It is in this last case that we can have recourse to the treatment of Hamilton; that is, mercurial frictions over the region of the heart, and, internally, mercury combined with opium; digitalis and hyosciamus should also be used internally."

Hypertrophy of the heart, investigated by Corvisart under the name of active aneurism, is a disease of very frequent appearance, and the study of the causes which excite so formidable an affection is interesting. We are acquainted with a young man in whom it followed a fall from a tree, by which he sustained a violent shock: other causes are thus detailed:

"1st. *Physical Causes.*—Under this head are included all those which accelerate or retard the circulation, and augment the pressure of the blood on the heart. This class comprehends all violent and prolonged efforts (causes which accelerate the circulation); numerous alterations in the aorta, the valves of the heart, and the pericardium (as adhesions of the pericardium); certain pulmonary affections (emphysema, asthma, chronic catarrh); all abdominal diseases which cause the diaphragm to be forced upwards (the use of too tight corsets, &c.); all causes that embarrass the circulation, and increase the pressure which the blood exercises on the heart. 2d. *Physiological causes:* all moral emotions; all disorders of innervation that induce frequent palpitations. 3d. *Pathological causes:* inflammation, either of the heart itself, or of its two serous envelopes. So far we have considered the development of hypertrophy as subordinate to mechanical causes only; but it is now clearly shown, that chronic inflammation, whether original or consequent on acute inflammation, may cause hypertrophy of a muscular organ; this inference may very justly be drawn as regards the heart, or central organ of the circulation. Consequently, we are forced to admit, that when an organic lesion, the consequence of inflammation, has caused hypertrophy, the inflammation itself has contributed its share to produce this alteration.

Diagnosis.—Hypertrophy of the heart is distinguished, 1st, from *pericarditis*, by the nature of the dulness, the force and energy of the impulse, the absence of the friction sounds, and the reactional phenomena which belong to this disease; 2d, from *endocarditis*, by the increased extent of dulness, absence of the murmurs, and sympathetic phenomena, which accompany this disease; 3d, from *pleurisy with effusion*, which sometimes forces the heart under the sternum, by signs which announce this alteration in the seat of the organ, and the absence of that dulness in the posterior part of the thorax which belongs to pleurisy; 4th, from *pulmonary emphysema*, by the normal resonance of the whole chest, and dulness in the præcordial region.

"*Treatment.*—The first indication which is presented in hypertrophy, is to remove the known exciting causes, as corporeal exercise, intemperance, moral emotions, &c.; then it will be proper to have recourse to a measure (*sanguineous depletion*) which has been always recommended, but differently employed, in the treatment of this disease. Laennec after the example of Albertini and Valsalva, suggested very large bleedings, at intervals of two, four, or eight days; and a reduction gradually of the quantity of nourishment to fourteen ounces a day. This treatment should be continued for many months, at least; sometimes for several consecutive years. The end proposed by Laennec, is to unload the cavities of the heart, and to diminish the stimulating action of the blood and the active nutrition of this organ. The treatment of Albertini, applied rigorously, often counteracts its intention, and may hasten the death of the patient. We think that an equally fortunate result may be obtained by a mode which is more advantageous to the patient; which is, to draw six or eight ounces of blood, by venesection, every fifteen days or a month; according to the age or strength of the subject, and afterwards to have recourse to local bleedings, behind the ears, or over the præcordial region, if there be symptoms of cerebral or cardiac congestion. The nourishment should consist, during the first two or three months, of fresh fish, vegetables, and farinaceous articles, (only feeble persons may eat a little meat); the nourishment should be small in quantity, and the meals light, and so arranged as to satisfy the appetite, without overloading the stomach. The patient should have water, slightly flavored, for drink; those who are feeble may drink a little wine largely diluted. All kinds of exercise on foot should be prohibited; but riding in a carriage will be found useful. It will be well, during the first period of the disease, to join, to the use of bleedings, saline purgatives with the view of preventing constipation, and of producing a slight revulsion on the intestinal canal; the use of nitrate of potassa, digitalis, and other diuretics, will be indicated, even when dropsy has not appeared. Digitalis, independently of its diuretic action, has the property of rendering the beats of the heart slower, and of considerably diminishing their force: given in the dose of one grain to four grains of the leaves, or of ten to thirty drops of the tincture, it generally produces good effects. It is especially useful in simple hypertrophy, less so in hypertrophy with dilatation, and would be very pernicious when the dilatation has reached to a great extent. This medicine ought not to be continued during the whole period of the disease, as some persons practice. When we have obtained the

effects which we expected, it is proper to suspend its use, in order to recur to it at a later period with advantage; if the digitalis be constantly employed, it will produce disorders of the digestive canal; cardialgia, nausea, vomiting, &c. There are some persons whose stomachs cannot tolerate it at all; in this case it should be used by enema, or the endermic method should be tried.

"When the dropsy is perfectly well marked, we have recourse to the most active diuretics, and to hydrogogues. (See *Treatment of the Diseases of the Valves.*)

"Under certain circumstances, where the irritation of the nervous system continues, notwithstanding the most judicious measures, it will be found useful to administer some sedatives, as hyosciamus, one grain to four grains of the extract, the acetate or hydrochlorate of morphia in doses of from a tenth to a fifth of a grain, &c.

"The employment of iodine and mercurial frictions, as absorbents, has been proposed: but the results have not answered expectation.

"The treatment which we have just proposed, and which is very similar to that which Hope employed in his large practice, ought, in order to succeed, to be perseveringly continued for two or three years; and it will be necessary, for one or two years more, to take proper precautions in order to avoid relapses; but, although the treatment be thus prolonged, the patients easily submit to it, since it does not give them much trouble or distress."

Atrophy of the heart presents three variations:—1. *Simple atrophy*, the walls being attenuated without any notable change in their capacities, but with an appreciable diminution in size; 2. Atrophy with dilatation; 3. Atrophy with contraction. It is characterised by signs the opposite to those of hypertrophy—they are as follows:

"*Local Symptoms.*—Beats of the heart, short and feeble; impulse hardly appreciable; sensible diminution in the dulness on percussion; extreme feebleness of the sounds of the heart, which are slow and regular.

"*General Symptoms.*—Atrophy often exists for a long time, without being accompanied by general symptoms; individuals, who are affected with it, are predisposed to anemia, to syncope, and to other nervous affections. In some cases, however, we observe shortness of breath on the least exertion,

palpitations without energetic contractions, discoloration of the integuments, and a precarious and sickly existence, œdema, and death, in a state of exhaustion.

"The treatment of atrophy is governed by the exciting causes."

We find it impracticable in the limits at our disposal, to give any satisfactory account of the remaining chapters of this practical little monograph, which, however, we deem of the less consequence, since all who are not familiar with the subject, and are beginning to feel an interest in its investigation, are pretty sure to possess themselves of the work. We close our notice of it with one extract more, relating to a cardiac affection not so formidable as many others, but distressing in its nature, and more frequent in its occurrence than any other malady of that important organ. We allude to *palpitations:*

"Palpitations consist in an increase of the force and frequency of the pulsations of the heart, so as to render them perceptible, and even disagreeable to the patient. They vary in force, from a degree in which they are hardly sensible to one of great violence. The patients often hear the pulsations, especially when they lie on the left side; even the two sounds of the heart may be distinguished in this posture. During the palpitations, the sounds of the heart ordinarily increase in intensity; and, in some circumstances, a slight bellows sound is produced, which ceases and disappears when the circulation has regained its natural quietness. Palpitations are also accompanied by a slight peripheric friction sound, which is dry and superficial, and due to the rapidity with which the two folds of the pericardium glide on each other: it disappears with the cause which originated it. At the same time, the arterial diastoles are short and quick, and the veins of the lateral parts of the neck are swelled and distended. Palpitations, when prolonged, always cause a sensation of uneasiness and anxiety in the præcordial region, and of fatigue in the whole extent of the chest; also, quickness of breathing, sometimes even extending to syncope.

"Palpitations form two great classes; viz: those which are caused by a material alteration of the heart, (*palpitations from organic cause*), and those which arise from a nervous cause (*palpitations from inorganic cause*), and are not referrible to any material lesion of this organ. *Palpitations from organic*

cause are distinguished from the others by their permanence and tenacity, by the great irregularity which they cause in the pulsations of the heart, and in the sounds, which are considerably feebler than common, and, finally, by the existence of the signs peculiar to the affection of the heart which has produced them.

"*Nervous palpitations*, of which only we intend to speak here, constitute a very troublesome disease. They present many varieties which it is important to distinguish, because their treatment is different, and sometimes even opposite. Everything else being equal, they are more violent in proportion as the patients have a more nervous constitution or a more irritable temper.

"In the *first variety* we shall place palpitations induced by strong mental emotions, by hysteria, hypochondriasis, nostalgia, excessive labour, particularly in the night, venereal excess, dyspnœa, &c. These are nervous *palpitations, properly so called.*

"In the *second variety* we place palpitations produced by the abuse of spirituous drinks, and by exciting regimen, and especially by plethora (*plethoric palpitations*).

The *third variety* will consist of palpitations which appear in individuals who are anemic and chlorotic, and which are owing to an impoverishment of the blood (*anemic palpitations*). These last palpitations are very often confounded with palpitations from organic causes, although it is easy to distinguish them by a close examination; for all the characters of anemia and chlorosis are present. We assure ourselves that the heart has not increased in size, that its orifices are in their natural state, and that the valves are completely closed. In speaking of the intra-cardiac murmurs, we have already given the means of distinguishing murmurs by organic causes from the murmurs by inorganic causes. We shall not repeat them here. The case most difficult to be recognized would be that where palpitations from organic and inorganic cause existed at the same time.

"*Progress, duration, termination.*—The progress of palpitations is always irregular; they ordinarily return in paroxysms at more or less distant intervals. As to their duration, they vary according to a number of circumstances, and especially according to the cause which has produced them. It is difficult to fix a termination to so transient an affection. It may, however, be said, that when they are prolonged, or are repeated for a long time, they finish by causing hypertrophy or dilatation of the heart.

"*Treatment.*—The treatment of palpitations is entirely subordinate to the causes which have produced them; and to the ascertaining of these must the efforts of the physician be directed. Palpitations from moral causes can only be managed by moral treatment. This last is not so successful against palpitations produced by hysteria or nostalgia. As to those which are produced by dyspepsia, the means which are commonly directed against this affection of the digestive canal should be employed. Plethoric palpitations require a more active treatment. Sanguineous depletions, moderate regimen, exercise, are the means which succeed the best. In anemic palpitations, tonics should be had recourse to, as well as the chalybeate preparations, cold baths, nourishing food, moderate exercise. The effects of chalybeates may be considered as the test of these palpitations. If they do not succeed, an organic affection is to be feared. The preparations and mode of administration must be varied. Among those of iron, we place, in the first rank, the subcarbonate and lactate of iron."

Y.

ART. VII.—*A Treatise on Dislocations and Fractures of the Joints.* By SIR ASTLEY COOPER, Bart. F. R. S., &c. *A new edition, much enlarged.* Edited by BRANSBY B. COOPER, F. R. S., &c. With additional observations, and a memoir of the author. Philadelphia: Lea & Blanchard. 1844. 8vo. pp. 499.

This Treatise has been long before the profession, and the new edition of it, published under the superintendence of the Committee on Publications of the Massachusetts Medical Society, embraces valuable improvements, as well in the matter of the work, as in the style in which it has been brought out. It is as tasteful a volume as the student could desire to see—on a neat, clear type, white paper, and with numerous wood engravings of capital execution. As to matter, it is an embodiment of the results of the large experience and observation of Sir Astley's long life. It is one of the best productions of the first surgeon of his age—an eminently practical treatise on subjects of the highest interest to the practitioner. No cases oftener occur in the practice of a young surgeon than those of dislocations and fractures, and none, we may add, are more frequently mismanaged. Let every young practitioner make

himself familiar with the principles laid down in this work, and cases of malpractice, in casualties of the sort, will become matters of less frequent occurrence.

From the interesting memoir of the author, prefixed to this volume, we make a single short extract—it is a part of the account given of the examination of his body, after death:

"Sir Astley had requested the examination," says his biographer, "and had directed the attention of the examiners to several points of inquiry; to wit, to the marks of an umbilical, and an inguinal hernia, of each of which he had been cured; to some suspected indications of phthisis in his youth, and of which several individuals of his family had died, and an inability to sleep when lying on his left side.

"Some remains of both the hernia were discovered; and at the superior and posterior part of the right lung was a small depressed and somewhat contracted surface, about the extent of a sixpence; a section of which exposed a calcareous mass, very uneven upon its surface, and about equal to the size of a small pea."

Selections from American and Foreign Journals.

On the successful employment of Belladonna as a prophylactic during the prevalence of Epidemic Scarlatina. By M. Stievenart, of Valenciennes, (*Bulletin de l'Academie Royale de Medicine*, February, 1843.)—An epidemic scarlatina ravaged, during the winter of 1840–1, several villages in the neighborhood of Valenciennes, when Dr. Stievenart was induced to try the prophylactic properties which belladonna is said to possess against this disease. In a small village, out of 250 individuals, 200 took belladonna, and were all preserved from the attacks of scarlet fever. Of the 50 others, 14 were siezed with the disease, and four of them died. At the village of Curgies, Dr. Stievenart administered the belladonna to the children at the public school, and allowed them to continue at their lessons and have communication with the other children of the village. All to whom the belladonna was administered escaped the scarlet fever; but a few who refused to take it were seized with the disease.

The belladonna was administered in two forms; in solution, or as a powder. Two grains of the recent alcoholic extract of belladonna were dissolved in an ounce of any aromatic infusion, and of this two drops were given to a child of one year old daily for nine or ten days. An additional drop was given for every additional year of age. The largest daily dose was, however, limited to twelve drops. When the belladonna was given in the form of a powder, half a grain of the powder of the root was mixed with a small quantity of sugar, and divided into ten doses. One of these was given morning and evening, to children of from one to two years old; two powders, morning and evening, to those from three to five; three powders to those from six to nine; four to those from ten to fourteen; and five to adults.

These small doses never produced the toxicological effects

of belladonna; in fact, they scarcely ever had any marked action on the animal economy. In five or six cases Dr. Stievenart observed a rash, similar to that of measles; and, in a few other cases, headache with dilatation of the pupils, dryness of the throat, and slight sore throat, but which had no resemblance to that of *scarlatina anginosa.* In all the others, no sensible or apparent effect resulted from the administration of the remedy.

Dr. Stievenart generally continued the use of the remedy for from nine to ten days; in some cases, it was given for fifteen days. He thinks this period sufficiently long to put the system under the influence of the preservative powers of the remedy; but recommends to return to it if the epidemic return or break out again with renewed violence.

A few of the recorded instances in which belladonna has been successfully administered as a prophylaxis, are noticed. Bayle, in 1830, published a notice on this subject, by which it appears, that of 2027 individuals to whom belladonna was administered, 1948 were preserved from scarlet fever, and 79 were attacked with it. Dusterberg, by means of belladonna administered for two weeks, preserved from scarlet fever all those who took the medicine. In order to ascertain the real value of the remedy, he purposely omitted to administer it to one child in every family, and this child alone, according to his report, was seized with the disease. He adds, however, that scarlet fever occasionally siezed a child who had only been taking the remedy for three or four days, but was always in this case mild, and often only manifested its presence by desquamation ensuing. Reuch, physician of the Military Hospital for Children in the Tyrol, after eighty-four children were siezed with scarlet fever, was induced to try the prophylactic effects of belladonna on the remaining sixty-one children. With a single exception, all were preserved from its attacks, though the disease was raging around. Schenk, Berndt, Kohler, Meglin, De Lens, and other distinguished physicians, speak in equally high terms of the prophylactic properties of belladonna. *Edinburgh Med. and Surg. Journal*, October, 1843.

Seats of Tubercle.—Laennec believed that the right lung was the most frequent seat of tubercles; Louis thought otherwise. Of 250 cases of pulmonary tubercle recorded by Dr. Hughes (Guy's Hospital Reports), in 166 the left lung was found chiefly diseased, and the right in 89, while in 45 cases

doubt existed as to which was the most diseased side. It would appear from the above partial experience that, contrary to the opinion of Laennec, the left lung is the most liable to tuberculary deposit. Of the 116 cases of disease in the left lung, 43 per cent. occurred in males, and 53 per cent. in females; while of the 89 cases of disease in the right side, 38 per cent. were in males, and 30 per cent. in females; therefore females would appear to be most liable to tubercle in the left, and males to tubercle in the right lung. Of the total 250 cases, the upper lobe of one or both lungs was solely or principally diseased in 237, or 95 per cent.; of the remaing 13, in 9 cases both lungs were uniformly diseased; and in only one case were the upper lobes free from tubercles. Of the same total number the per-centage of the sexes was about equal in deaths from tubercular phthisis under twenty years of age (viz: 8 per cent. of males, and 7 per cent. females); of those dying between tne ages of twenty and thirty, 41 per cent, were males, and 49 per cent. females; of those between thirty and forty, the per-centage was again nearly equal (viz: 26 per cent. for males, and 27 per cent. for females); and between forty and fity, the deaths of males were 23 per cent., and those of females 19. It would thus result that females were comparitively more liable to die of phthisis between the ages of twenty and thirty, and males between forty and fifty. *London Lancet.*

Remedy for Cough.—The abrupt violation of the decencies of social existence is one of the most annoying consequences of coughing and sneezing. If you happen to have a catarrh, and are not endowed with sufficiently strong powers of mind to be able to resist a paroxysm of coughing, place the end of your fore-finger upon the end of your nose, if you have a nose. In the absence of this central organ, rub your eyes as if you had been magnetized, and look at your watch. If the fit of coughing does not pass off, you will at least pass for an accomplished gentleman.—*Med. Chi. Rev.*, October, 1843.

An Elegant Sticking Plaster.—Black silk is strained and brushed over ten or twelve times with the following preparation:—Dissolve ℥ss of Benzoin in f℥vi of rectified spirit; in a separate vessel dissolve ℥j. of isinglass in water; strain each solution, mix them, and let the mixture rest, so that the gross-

er parts may subside; when the clear liquor is cold it will form a jelly, which must be warmed before it is applied to the silk. When the plaster is quite dry, in order to prevent its cracking, it is finished off with a solution of terebinth. chia. ʒiv. in tinct. benzoes fʒvj.—*Medical Times*, April 15, 1843.

On the Use and Abuse of Filing to remove Irregularities of the Teeth.—There are many instances in which it is advisable and safe, as well as ornamental, to file the teeth; but as it is usually practised, nothing can be more pernicious.

Since it cannot be supposed that any man is so lost to shame and humanity as to expose his patient to pain and inconvenience during life, merely for the sake of a trifling fee, the indiscriminate filing of teeth, so common at present, should be imputed only to ignorance, and may, I hope, be checked, by placing the subject in a clear light, and by drawing the line to distinguish where it may, and where it may not, be practised with safety.

1. In people far advanced in years, the teeth may be filed into order without any inconvenience; because the nerves are lost, the teeth can feel no pain in the operation, nor afterwards from colds, acids, or sweets, and because they are not then so much disposed to caries or decay.

2. Where a tooth projects beyond the common level, and hinders the rest from meeting equally, or receives, on itself alone, all the pressure which should fall divided on a whole set, there filing is necessary, at any age, to remove the greater evil.

3. Filing is necessary and advisable to remove sharp points occasioned by fracture or otherwise, which irritate and wound the lips and tongue; because, in this case, the bony part of the tooth is already exposed, and cutting off the sharp prominces cannot make it more liable to caries or pain than it would otherwise have been.

4. Where a tooth points obliquely against the tongue, or against the lips, as often happens on account of the resistance of the milk-teeth, it is necessary to round the edge by filing, to prevent its wounding the soft parts.

5. When the edges of the fore teeth are uncommonly sharp and thin, and therefore apt to splinter, it is very proper to file them down, to give them a more obtuse and durable edge.

6. Filing is likewise advisable to remove caries, to prepare a tooth for the reception of a new crown, and in a few similar cases, related in the second part of this treatise.

7. When the teeth stand irregularly, and are too broad to admit of being reduced to one uniform line, filing between them may be practised to a certain degree; but great care should be taken not to cut away the enamel totally, as is too often practised on this occasion.

If a man had no feeling, nor any other use for his teeth but for the ornament of his countenance, I should not limit the use of the file to these cases only. But since most people, from infancy to middle age, feel insufferable pain the very moment the file touches the bony substance, and since this pain must be very often repeated, because each successive surface of the osseous substance must have some time to wither, and lose a part of its sensibility before it can admit of filing beyond a certain depth; since it happens, likewise, that the enamel once removed, is never regenerated; that a tooth in this naked state is for a long time affected with pain from the slightest impressions of cold, acids, sweets, &c.; that it wears away quickly, and is very much subject to decay, I cannot join to support the common practice of indiscriminate filing; I think it should be confined to the cases above related, for I believe it is advisable in these only.

Hence it is, that I so frequently refuse to perform this ornamental operation for my patients, and that I have often advised young people, who have credulously listened to advertisements and promises of this kind, never to barter a sure and valuable blessing for such a painful, dangerous, short-lived ornament: for ill-set or irregular teeth may last healthy and unpaired to the latest period of life, and the deformity in general is not very great, provided they are kept clean, white, and polished.—*Berdmore's Treatise on the Disorders and Deformities of the Teeth and Gums.*

Œdopsophia, or Noisy Expulsion of Gas from the Vagina. This affection occurs in women (especially lame women) whose inferior vulvar aperture is narrow. Oftentimes no symptom precedes it, and the patient is not aware of the existence of the complaint until the noisy expulsion occurs. The distended state of the parts may be felt by examination by the rectum, and the gas in part expelled by pressing on the hypogastrium. When the affection arises from a foreign body in a state of putrefaction, it will cease on the removal of this; but in instances where none such existed, Lisfranc has frequently rendered the patient's condition much more supportable, by instructing her, prior to going into society, or, under any cir-

cumstance where the unexpected expulsion would prove annoying, to secure herself from this, by introducing a finger into the inferior aperture of the vulva, and thus give vent to it. In examining females for other complaints, he has frequently detected this affection, although concealed by the patients, and has always succeeded in affording great comfort by the above suggestion. If the vagina is capable of secreting this gaseous substance, it is from its being in a condition of inflammation or irritation, and therefore means of a mild antiphlogistic character, modified by circumstances, must be had recourse to, *e. g.*, venesection, warm baths, lavements, &c.—*Med. Chir. Rev., Oct.*, 1843, from *Lisfranc's Clinique Chirurgicale de l'Hôpital de la Pitie.*

French Gratitude to Medical Men.—We observe by one of the Paris journals, that the names of *Percy*, *Desgenettes*, and *Larrey*, have been recently engraved on the famous Arc de Triomphe, at the Barriére de l'Etoile.

In some respects, certainly, medical men occupy a higher position in society in France than in this country. For example, who ever heard of a doctor becoming a *Baron*, or peer of the realm with us? and yet every one knows that *Portal*, *Dupuytren*, and *Cuvier*, occupied that dignified rank in the parliament of France; and where is the nobleman of Germany that might not be proud to be associated with a Baron *Humboldt?* True, the circumstance of a French peerage being merely personal, and not hereditary, makes a very material difference in the case; but then, why should there not be a certain number at least—we are no friends to an elective aristocracy, as a general question—of the most eminent men in the various departments of science being admitted to the highest honors of the state, without necessarily entailing upon their families the expensive title which they bore themselves?

By a recent Royal Ordonnance, M. *Louis* has been made an officer of the Legion of Honor, and M. *Leuret* a chevalier of the same Order.

Again, MM. *Andral* and *Rayer*—certainly two of the most distinguished names in French medicine of the present age—have been elected members of the Institute. "The selection of such men," says one of the Paris journals, "shows very emphatically that this illustrious body looks as much to the scientific character as to the practical eminence of its candidates; in a word, that it wants not so much the mere skilful physi-

cian as the enlightened philosopher in its ranks."—*Medico-Chirurgical Review for July*, 1843.

Dr. Sibson on the Means af Determining the Relative Position of the Thoracic and Abdominal Viscera.—At the late anniversary meeting of the Provincial Medical and Surgical Association held at Leeds, Mr. Sibson stated, that in 1836, when examining patients with chest affections, he felt his knowledge of the relative position of the thoracic and abdominal viscera was imperfect and confused. To remedy this he took outline sketches of the viscera from most of the bodies that were dissected in the General Hospital, near Nottingham, at first by the eye, afterwards by the aid of a frame. After some time, Dr. Hodgkin, of London, suggested to Mr. Sibson a very valuable plan, facilitating and rendering more accurate the diagrams. This consisted in placing a frame over which a piece of net or lace was stretched, above the body the organs of which were to be sketched, and by tracing with chalk the outline of each organ, as seen through the gauze. Mr. Sibson then proceeded to give a rapid sketch of the general results obtained by the carrying out of this plan.

The apex of each lung ascends above the clavicle from one to two inches. This is an important practical fact, as by examination of this region tubercles may be detected in their early stage, and long before they have extended to that part of the lung below the clavicle. The inner line of the right lung is behind the sternum for its whole length, whereas that of the centre of left lung diverges obliquely outwards and downwards opposite to the fourth costal cartilage. The lower edge of the right lung is generally behind the sixth costal cartilage; that of the left lung is about a rib's breath lower. The upper margin of the liver, from the dulness of that organ, forms an admirable means for distinguishing the lower border of the resonant right lung. The hollow resonance of the stomach in contrast with the diffused resonance of the lung enables the lower border of the left lung to be defined with equal facility.

In emphysema the chest is constantly in the state of a very deep inspiration; the lower margin of the lung descends several ribs' breadth below its usual seat; at the same time the diaphragm draws down the lungs; it in a like manner and extent draws down the heart. The dilatation of the structure of the lungs is due not to frequent coughing, but to constant efforts, by extreme inflation of the lungs, to relieve dyspnœa,

the structure of the lungs being in this manner overstretched.

In pneumonia, pleuritis, and general tuberculous infiltration of the whole lung, the affected organ is greatly enlarged, the lower margin descends considerably below its normal position, and the walls of the chest on the diseased side are much more expanded than on the healthy one, but the healthy lung expands more than the diseased one on a deep inspiration. In phthisis affecting the summit of the lung, the mass of the lungs does not appear to be much affected in size. In the consolidation and contraction of lung following pleuritis, the whole structure is diminished and the lower margins are raised, their previous position being occupied by the abdominal viscera.

On artificially distending the pericardial sac, it assumes the form of an oblate spheroid, on the top of which is placed a smaller hemisphere which surrounds the great vessels. In pericarditis with effusion, the sac assumes the same form and displaces the lungs to a considerable extent at the upper part of the sternum; it likewise causes the central tendon of the diaphragm to protrude to a great extent into the abdomen, displacing the liver and stomach. In disease of the heart with enlargement, the lungs are displaced to an extent proportionate to the enlargement, but not at the upper part of the sternum; the liver and stomach, the whole diaphragm, and consequently the basis of both lungs, are considerably lower than in the normal state.

In enlargement of the liver the free play of the lungs and heart is interfered with if the patient lies on the left side, the weight of the liver falling upon the heart interferes with its action, and causes palpitation. In persons affected with ovarian dropsy or ascites, the abdominal viscera, and consequently the diaphragm, are pushed abnormally upwards, and the lower borders of the lungs and heart are unnaturally high.

The same state obtains, but to a more extreme degree, when the stomach or intestines are over distended as in dyspepsia, this state inducing palpitation; or in peritonitis, where the enormous distension often seriously interferes with the action of the heart and lungs. In empyema and its extensive pleuritic effusion the diaphragm is more lowered and the abdominal viscera are more displaced than in any other disease of the lungs.—*Med. Examiner.—Provin. Medical Journal*, Aug. 12, 1843.

THE WESTERN JOURNAL.

NEW SERIES.—VOL. I.—NO. I.

LOUISVILLE, JANUARY 1, 1844.

THE WESTERN JOURNAL.

It will be seen that the first number of our *New Series* makes its appearance enlarged in size, and printed on a new type. The publishers thus testify their disposition to render the Journal worthy of success, and although it must be admitted that they have not received as prompt payment from many of their subscribers as they had a right to expect, still they are determined to sustain the work. Arrangements have been made by which, in addition to the American journals now sent us in exchange, the most valuable of the foreign journals of medicine will be regularly received, and we shall have it in our power to give a summary, in each number, of the latest and most interesting medical intelligence. The publishers of medical books in our Atlantic cities have been in the habit of sending many of their valuable publications to the Journal, but hitherto they have not been regularly noticed. This has been a culpable omission, but the editors are not chiefly chargeable with it. The books, in most cases, were directed to gentlemen not connected with the Journal, under the mistaken belief that they would receive the notice due them. We intend, for the future, to bestow much more labor than heretofore upon our department of Reviews and Bibliographical notices, and,

with the understanding which now exists between the book-sellers and ourselves, we shall hereafter receive everything new relating to medicine which issues from the American press. If we are not greatly mistaken, we shall be able very decidedly to enhance the usefulness and interest of the Journal by this arrangement Our readers may expect full analytical reviews of every new work recommended by the practical interest of its matter, and notices, however short, of all the publications that come to our hand. Most of the notices will necessarily be brief, but we shall endeavor to give such an account of each production as will enable the profession to judge of its claims to their favor.

Such are the improvements we have made in our plan of conducting the Journal. We are persuaded they will strike our readers as substantial, and we call upon them, once more, to second our efforts to produce a work worthy of the profession in the great Valley of the West. By a little exertion on the part of our friends, our subscription-list might be very greatly extended; thousands of physicians who are not now subscribers to any medical journal, might be induced to subscribe for it, and read it, to their own decided improvement, and the great benefit of their patients. May we not count on their efforts in behalf of our work, and may we not hope to receive more of the contributions of their pens? It is in their power to impart an interest to the pages of the Journal which cannot be given except by original communications. Histories of epidemics, or endemics, histories of individual cases of disease, or operations in surgery, all have their value, and impress a pleasing variety upon the pages of such a periodical. We know many scientific practitioners, many good writers, to whom we are sure this appeal will not be made in vain.

THE NATURAL MEANS OF PRESERVING HEALTH.

We thank our friend, Dr. Deavenport, for a copy of a pamphlet with the above title, written by his neighbor, Dr. J. P. Epperson, of Pulaski, Tennessee. We can readily believe Dr. Deavenport's statement, that the author is a young man of acknowledged talents, and that his present effort is but an earnest of what he can and *will* do in his profession. It is long since we met with a pamphlet containing so much sound thought and good writing, from the pen of a

young author. His subject is one which has been written upon by Johnson, by Combe, by Caldwell, and a host of strong men, but Dr. Epperson has treated it so well, that it assumes in his hands much of the freshness of a new topic. Such a writer may exercise a most healthful influence over the popular mind, for which his present tract was published. The truths he has therein told the people are of vital importance, and are communicated in language so simple and so natural that all can comprehend it, and, we should think, all must admire it. He treats of *exercise, the proper regulation of the mind, pure air, and aliment,* as the means of preserving health, and of eradicating the pre-disposition to consumption, and other hereditary diseases. The pamphlet ought to be extensively read by the people, and if its precepts are heeded, it will avert many an attack of dyspepsia and consumption. The following extracts, taken from different parts of the pamphlet, are but fair specimens of the pleasing manner in which the author conveys his practical truths:

"The first I shall notice, and that which is more frequently neglected than any other, is *Exercise.* If the question were asked, what is the most important rule of health, it might be answe.ed, as Demosthenes answered of oratory, "action! action!" It might as reasonably be expected that vegetation could spring forth, grow, and flourish without heat, light, or moisture, as that the animal frame could be fully developed, and preserved in health, without vigorous *action.* It is an indispensable means; it is indicated by the structure of the human frame; its long levers, and numerous and powerful muscles attached to them,—the arms and the legs, the hands and the feet, and the numerous joints, and their mobility, all obviously indicate that it is formed for vigorous, complicated, and repeated action.

"*Exercise* is an *instinctive* want in the animal economy. It may be seen in the aimless motions of infancy, in the romping of childhood and youth, and in the restlessness under restraint of more mature age. Where nature points out the rule of action, it cannot be disregarded with impunity. Even inanimate things are preserved by motion. The waters are purified by the agitation of streams, waves and tides. The atmosphere by its ever varying currents. Vegetation is continually waved by the veering winds, and is strengthened by their influence. But motion is more especially a function of animal beings, on the exercise of which the perfection of their growth, and their preservation most directly depends."

"Men are always seeking some universal principle, which they expect to do every thing: such as the perpetual motion in mechanics, a universal solvent in chemistry, a panacea in medicine, etc.; and contrary to all experience, and induction from established facts, they are prone to disregard the fixed laws of nature, to run after such fan-

tastical illusions. And of all illusions, that is the most fatal which leads us to overlook the *natural* actions of the system, and the *natural* circumstances by which they are promoted, and to vainly expect benefit from *medicine* in cases, in which, from the very nature of things, it must be inefficient, if not injurious. The influence of medicine on the system is a *borrowed* capital, which is necessary to extricate it from exigencies arising from neglect of the economy of health; but which, if resorted to frequently, must finally exhaust the estate it is intended to save. For medicine cannot create vital action, but can only modify it in a small degree, and its efficiency must be just in proporton to the degree of perfection of the *natural* actions of the bodily organs,—in other words, in proportion to the strength of the constitution: Therefore, to administer medicine with the view to improve the constitution, is to presuppose the existence of that which it is proposed to restore.

"I do not intend by this to disparage medical science; but to limit its application to is proper sphere. Most persons look on medicine as a perfect fountain of absolution, in which they can bathe and be absolved from all the diseases which their violation of the laws of health may incur.

"I do not maintain that human nature could be made exempt from disease and death, by any means. For all organized beings are necessarily subject to these.

"But my position is, that all diseases of the human system will be less frequent, and less severe, in proportion to its development, and maintainance of its organic powers, by the observance of the laws which regulate their actions. In the same manner, that crime will be prevented, in proportion to the judiciousness of legislation, and the excellency of moral precepts observed, although evil be a constituent part of human nature.

"2ndly. That constitutional diseases being the accumulated result of repeated *violations* of the laws of health, can be prevented by continued *observance* of these laws; and that their only cure, is their prevention. And although many diseases might have been placed in this class, I have particularized consumption only, on account of the frequency of its occurrence, and its fatality. And I have noticed dyspepsia in the same connection, because though not properly a constitutional disease, it is curable only by the same means.

"3dly. I advocate the doctrine that an ounce of prevention of disease by *natural means*, is better than a pound of cure by *medicine*. And yet I insist, on the *judicious* use of medical agents as a necessary evil in all diseases, whether unavoidable, or the result of imprudence. But at the same time I insist, that from the nature of the causes which produce consumption and dyspepsia, medicines can only act as palliatives in the treatment of them.

"4thly. And therefore I urge, that the public mind is too much fixed on medicine in the treatment of *these* diseases, to the neglect

of the only possible means of curing them, by avoiding or correcting the causes which produce them.

"And these truths being settled, I base upon them the broad declaration, that whoever asserts that he can cure *any disease* by nostrums, or specifics, or by any mode of routine medication, without regard to the removal of its causes, and to the peculiarities of each particular case, is either grossly ignorant of the true principles of medical science, or is grossly attempting to impose on the credulity of the public; or, more likely both of these, for ignorance and imposition generally go together I make the declaration in this strong language, because I know, and deplore the greediness of the wonder-loving populace to swallow the boasted wonder-workings of quackery, and the restless eagerness of suffering and decaying humanity to grasp continually at the delusive shadows of hope, although constantly deceived by them. It does *seem* that men ought to 'learn wisdom by experience;' but verily, they 'wax worse and worse, deceiving and being deceived.'" Y.

EUPHORBIA COROLLATA.

We extract the following from a letter of Dr. Preston Capshaw, Madison county, Alabama. From the known activity of most or all the *euphorbiaceæ*, we have supposed this intimation of a new property in the *Corollata* not unworthy of notice. D.

The Euphorbia Corollata, or Jacob's Root, has become a common remedy among the populace of this neighborhood, in the cure of Intermittants. The public, and the world, for aught I know, are indebted for the knowledge of its specific virtues, in the above diseases, to a negro by the name of Jacob, who was vending it as a *nostrum*, when I came into the neighborhood four years ago: hence the vulgar name by which it is known to the common people. Jacob, however, did not long enjoy the emoluments arising from the sale of this root. By some means, probably not understood by himself, his secret became known to the people, and has since been extensively used in all the more common forms of intermittant fever.

"Jacob's prescription was a table-spoonful of the powdered root at a single dose, which generally produced vomiting and purging in from one to four hours. Since it has passed into the hands of the public, however, it is seldom pulverised, being prescribed by the *inch*, more or less, according to the diameter of the root, the age of the patient, &c., to be masticated and swallowed after the manner of a raw potatoe, which it is said, in taste, to resemble.

"I am assured by many, who have used it in their families, from one to two years, almost to the exclusion of quinine, that a single

dose of it has cured chills, in the majority of cases in which they have given it. When it fails it is given in like manner during the next intermission, &c.

"My personal experience with the article, is not sufficient to warrant an opinion about it, but I incline to the belief, that its remedial virtues have never yet been fully and properly appreciated by the medical profession. It is certainly a very active medicine, promptly and speedily evacuating the stomach and bowels, accompanied by a sensation of warmth through the course of the alimentary canal.

"It has been given in hundreds of cases, and only one has come to my knowledge, in which it appeared to have operated injuriously: this occurred in a case of *grippe*, where it was given in conjunction with tartar emetic, to a child five years old—an almost fatal collapse was the result."

KENTUCKY LUNATIC ASYLUM.

A brighter day seems to have dawned upon this institution. The Annual Report of the Managers and attending Physicians, for 1843, exhibits an improvement in its administration which will fill many a heart in this Commonwealth with joy. The humane and enlightened practice long since adopted in other retreats for the insane appears, at length, to have found its way into the sylum at Lexington, and is attended with the same happy results—the restoration of many of its unfortunate inmates to reason. It was not so in former times. If one recovered, it seemed to be by accident, or, at the most, by the *vis medicatrix naturæ*. Nor could it well be otherwise. No adequate medical attendance was provided. The salary allowed to the physician who attended was so small that he could not afford to bestow much of his time upon the institution, and no systematic plan was adopted and persevered in for the cure of the insane. In these years—the long period from 1824, when the charity was opened, to 1843, when the present attending physicians entered upon their duties—according to to the report before us, the deaths in the asylum, annually, exceeded 39 per cent. During the past year, the deaths have amounted to a small fraction over 4 per cent. This, as the attending physicians justly observe, is *"a remarkable difference."* There must be a cause for it, and is doubtless to be found in the circumstances stated in the report.

First, the attending physicians, Drs. Pinckard, Letcher, and Price, on assuming the care of the institution, set about improving the gen-

eral health of the patients. In the second place, they sought to give the inmates of the house all the opportunities for exercise and amusement which the institution afforded. They found that the patients were addicted to the intemperate use of tobacco, and that in nearly every one the general health was seriously impaired by the indulgence. This practice was interdicted, and, the report informs us, the result was soon seen in the comparatively ruddy and robust appearance of those who a short time before were pale and emaciated. Many of the lunatics, too feeble to walk, were evidently suffering for the want of exercise, and from confinement, "for years, in the narrow cells of the asylum." On application by the physicians to the commissioners of the Hospital, carriages were provided for this class of patients. Again, continues the report of the physicians, "as we ourselves are fond of good living, we directed the patients generally to be fed on the best beef and mutton the market affords, and they are now seated at as fine a table as any hotel in Kentucky can furnish." The remedial treatment has been applied with great punctuality and discrimination, and with results, as contrasted with the success of previous years, to which the present faculty of the asylum may appeal with a feeling of triumph. The moral treatment has also undergone a beneficial reform. As an indispensable preliminary to the introduction of the best system, the physicians have commenced a classification of the patients, and although this is not yet perfected, they express a belief that the measure is so far matured, that the best effects may be expected to be developed by it in the future operations of the establishment. At the present time, constant and agreeable occupation is provided for the insane; those who are too feeble to perform manual labor are taken daily in carriages, or other vehicles, into the open air; music and dancing parties have been occasionally introduced with advantage; chains, stripes, and box-houses have been abolished, and, in their stead, a plan of government has been adopted, styled, in the report, "patriarchal"—one characterized by all the respect and kindness towards the afflicted compatible with firmness and decision. Such is the cheering picture given in the report, of the present state and future promise of the Kentucky Lunatic Asylum. We add a few details.

The number of patients in the charity at the beginning of 1843 was 156, to which number 74 were added subsequently, making 230 for the whole year—a larger number, by 20 per cent., than

was ever before in the asylum. Of these, 15 died, 33 were cured, 16 are reported as improved in their condition, and 6 were taken home. Of the deaths, 3 occurred in January, before the present attending physicians assumed their duties in the institution, and 4 occurred so soon afterwards, that they insist on not being held responsible for them. Deducting these from the whole number, it leaves but 8 for the eleven months of their attendance. Of the patients in the house at the beginning of 1843, and admitted during the year, the insanity of 154 was of long standing—that of 34, recent. Among the old cases, 8 per cent. were restored, 2 per cent. were improved, and 5 deaths occurred The recent cases afforded of cures over 58 per cent., of improvement 6 per cent., and of deaths nearly 3 per cent.—fractions being omitted in every instance. The number in the asylum at the end of the year, was 170; of whom 100 are males, and 70 females. The commissioners speak of a farm, rented last year, as having been of incalculable benefit to the patients, affording them the means of healthful labor, and more ample scope for exercise, and they conclude by suggesting that further improvements might still be made in the economy of the asylum, and by recommending to the Legislature, in strong terms, the purchase of fifty or sixty additional acres of land for the use of the institution.

We have been thus particular in our account of this important State institution, because it is an object of deep public interest. We are very often consulted by our friends in other States, as to the most eligible retreat for insane persons, and it affords us unmixed pleasure to be able to present them with so favorable a description of the Asylum at Lexington. In the neighborhood of one of the most beautiful towns in the country, and in the bosom of a cultivated, refined and moral community, with all the advantages of an airy and salubrious situation, there is no reason why, with the proper interior regulations, such as seem to have been adopted, it should not enjoy as much success in restoring the insane to their sound minds as any asylum in the land. Y.

PROFESSOR BACHE'S INTRODUCTORY

This discourse is what it purports to be—strictly an introduction to a course of lectures on Chemistry. It lays down the plan which the lecturer proposes to follow, and discusses, briefly, several topics in the simple, lucid, unambitious style adapted to scientific subjects. The lecture is thoroughly chemical, and is one from which his pupils will derive profit. A very clear statement of Leibig's theory of animal heat and nutrition makes a part of the lecture, and the author, we think, has pointed out one of the premature conclusions, from which it will be admitted by the warmest admirers of the great German Chemist, that his physiological doctrines are by no means free.

Liebig holds that the waste of the organism of animals is repaired by the proteine-compounds of their food—the fibrine, albumen, and caseine, and that gelatine, not being a modification of proteine, takes no part in nutrition, unless it be in that of the gelatinous tissues. The fact upon which he rests this opinion is the starvation of dogs when fed exclusively upon gelatine. But, as Prof. Bache urges, is not the result the same when animals are confined to any single nutritive element? Geese died with the symptoms of starvation, in the experiments of Tiedemann and Gmelin, although they had an ample supply of albumen, the great element of nutrition. In the present state of our knowledge, we are not authorized to say that a substance is not nutritious because it will not, singly, support the life of an animal. The proteine-compounds, containing no gelatine, are adequate to the nourishment of animals. All their organized parts are derived from these compounds, and it follows, that their fibrine or albumen must be transformed by the vital process into the gelatinous tissues. Liebig indicates the mode by which it is done. "But," asks Prof. B., very properly, "why may not the converse operation take place; and if we admit that the vital force can convert proteine into gelatine; why not concede that the same force can change gelatine into proteine, which is equivalent to its change into blood?" We agree with him, that Liebig has here committed an error "in limiting the transforming powers of the digestive and assimilating organs." And we admit it the more willingly, because we have heretofore so freely admitted Liebig's claims to general accuracy, as well as great originality of doctrine. Prof. B. thinks it is conceded

by every one, "that chemical changes are incessantly taking place in living beings, whether animal or vegetable; and he agrees with nearly every one who has examined "Liebig's Animal Chemistry," that it has "lifted a corner of the curtain which conceals from our view what is performed on the stage of the vital organism." But he cautions his students against a too ready admission of what he calls its "presumptuous claim," that the chemists have "penetrated behind the scenes, and witnessed nature in the very act of playing her part in the mysterious drama of life." Y.

ANATOMICAL ATLAS.

The medical profession in the United States, practitioners as well as students, will be obliged to Dr. Henry H. Smith for his beautiful Anatomical Atlas, the first part of which has been issued by the liberal publishers, Lea & Blanchard, of Philadelphia. The work is to be completed in five numbers, and will afford a most admirable illustration of the structure of the human body. That it is issued under the supervision of Professor Horner, to whose Special Anatomy and Histology it is to form the accompaniment, is an ample voucher for its fidelity and value. The original drawings are from the pencil of Pinkerton, who has acquired distinction in this department of art, and the engravings are in Gilbert's best style, which is the highest compliment that could be paid them. Of the utility of such drawings, the author truly says, there can be no queston. "Separated from the centre of instruction, and deprived of the advantages of the dissecting room, the ideas once so thoroughly acquired soon begin to fade, and the images once so distinct, become confused and mixed. A recourse to plates, in the absence of dead bodies, is then the only means of refreshing our knowledge."

It has been the aim of the author of the Atlas to comprise in it the valuable points of all previous works, to embrace the latest microscopical observations on the anatomy of the tissues, and, by placing it at a moderate price, to enable all to acquire it who may need its assistance in the dissecting or operating room, or other field of practice. The first part contains one hundred and thirty figures;—ninety-two of the bones, and thirty-six of the ligaments.

Y.

WILSON'S DISSECTOR.

To the same prolific press the student of anatomy is indebted for another aid in the prosecution of this important study. Wilson's Anatomy has been much admired for its accurate and beautiful delineations, and the present work lays claim to a portion of the same excellence. It has been arranged to suit medical students in the United States, by Paul B. Goddard, M.D., Demonstrator of Anatomy in the University of Pennsylvania. It strikes us as being all that a "Dissector" could be. The wood cuts are numerous, and will afford the student the most essential aid in the dissecting room. Y.

BOOKS RECEIVED.

We have received from the publishers, Lea & Blanchard, the following works for notice in our Journal: Williams' Principles of Pathology, Harrison on the Nervous System, and Watson's Practice of Physic. They will be reviewed as soon as time and space can be commanded. We have also received from the author, Dr. Edward Jarvis, of Dorchester, Massachusetts, an interesting paper on "Insanity of the Colored Population of the Free States," in which some singular errors in the sixth census of the United States are brought to light. We shall notice the subject in our next number.

WESTERN MEDICAL SCHOOLS.

Kemper College, at Saint Louis, is said to have 90 students in attendance on the medical lectures, this winter. At Cincinnati there are reported to be about 180. A gentleman residing at Lexington, writes to a friend in this city, that the number at that school is 212. The number at the Louisville Medical Institute is 243. We have not heard from either the new school at St. Louis, or the New Orleans school.

THE

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OF

MEDICINE AND SURGERY.

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MEDICINE AND SURGERY.

FEBRUARY, 1844.

ART. I.—*On a Ferruginous preparation, termed, vulgarly, "Clinkers," in certain Diseases.* By W. S. McMURTRY, M.D., of Benton, Miss. Being an Inaugural Dissertation, submitted to the President, Managers and Faculty of the Medical Institute of Louisville, for the degree of M.D. March, 1843.

In the march of investigation one fact of great value and interest has been ascertained and settled—that nature, by the operation of a few laws and a few agents, a few simple means, brings about an immense variety of important results. A knowledge of this fact is of the greatest importance to the philosopher, as it teaches him when new phenomena are discovered, not to seek for new laws and new agents as means of explanation, but if possible, to refer them to the combined operation of laws and agents already known. Thus

we are frequently astonished after long research and investigation, to find at last that one or two simple truths explain the whole of a great number of phenomena which had been before entirely unintelligible. And still more are we astonished that these simple principles, which appear almost self-evident, should have been so long unknown. When a principle is once known it is difficult to say to what results it may lead.

Thus, the investigation of the cause of the contractions in the muscles of the leg of a frog, under peculiar circumstances, has led to the discovery of Dynamic Electricity with all its wonderful effects. The same great principle is exhibited in numberless other cases. Among these, none is more admirable than the great variety of important purposes to which the various forms of Iron may be applied. I shall not stop to enumerate its application in the arts, but proceed at once to the subject of this paper—the remedial virtues of one of the forms of this metal. No class of remedies is more interesting on account of their active and varied properties than the chalybeates. This class furnishes tonics, laxatives, anthelmintics and astringents,—in all cases giving tone to the digestive apparatus and invigorating the whole system, as well as exhibiting the specific effects of each particular preparation.

The pharmaceutic preparations of iron are rapidly increasing in number. Modern chemistry has furnished us with several preparations of this metal, the properties of which are exceedingly interesting and valuable. I propose, however, to treat more particularly of a preparation which has been but lately introduced to our notice, and has received but little attention from the profession at large. It is not very strange that it should have been so long overlooked, for its external appearance is any thing but attractive, and one would be as apt to suspect almost any thing else of possessing valuable properties as this. I allude to what in the manufacturing districts of England is called "*Clinkers*," which are nothing more than the scoriæ produced in the smith's forge by the fusion of aluminous earth and other impurities with a small portion of

iron. In what state the constituents of this compound exist is not known. Some have supposed from its appearance and external hardness that the metal becomes steel during the process of fusion with the clay; but this is uncertain, as no analysis of it has ever been made upon which reliance can be placed. Possibly it may contain some peculiar chemical compound upon which its valuable properties depend.

For the first notice of this article we are indebted to Dr. C. J. Edwards, of Bath, who, in the Provincial Medical and Surgical Journal, of February 5th, 1842, has given us some account of its properties and uses in the cure of cachectic diseases.

In the districts mentioned, the clinkers have been long used by "knowing old women," as a remedy in chlorotic disorders, and with such uniform success as to have obtained for the medicine the title of "specific."

The following is the mode of preparing it:—The bluest and heaviest pieces should be selected from the mass; that which is of a light color and less ponderous, being entirely inert and useless. Being carefully selected, it is to be finely levigated, which, by the way, is a work of great difficulty, owing to its extreme hardness and metalloid character. Any quantity of this powder may be mixed with a sufficient amount of molasses to form a stiff paste—to every eight ounces of this mass, half an ounce of magnesia and an equal quantity of ginger must be added. The mass thus formed is any thing but inviting to the eye, but its appearance may be improved by using honey instead of molasses, and adding a small quantity of peroxide of iron to the compound. The *modus operandi* of the magnesia and ginger is sufficiently evident. It may be well to observe, however, that unless the ginger, or some other stomachic, be combined with it, griping pains in the bowels are very apt to be produced by its use.

The directions for administering it are quite as unique as the formula for its preparation. It must be taken twice a day—morning and night—for three successive days, and then omitted for a like period; and so continued until the course

that has been decided upon has been finished. The dose is a tea-spoonful. Absurd as these directions seem, they are not without their value; for experience has proved that constitutional irritation supervenes, unless some decided interval is allowed, at stated periods, during a course of this remedy.

Dr. Edwards first tested its powers in a number of patients in whom the exsanguineous state of the skin, and wasting of the muscular fibre, were indicative of the morbid manner in which the functions of the stomach, alimentary canal, and uterus, were carried on. Within a month from commencing the use of the clinkers a striking improvement took place in the appearance of the patients, and before the expiration of two months, every unfavorable symptom disappeared. One case in particular is well worthy of especial notice, on account of the scrofulous condition of the submaxillary glands, and the ulcerated state in which one of them had been for several years; this healed during the use of the new medicine.

"I may observe, en passant," says Dr. E., "that previous to the trial of the clinkers, this young woman had been under professional treatment for some time without deriving any benefit from it. The pulse was weak and nearly 100; catamenia irregular in appearance, variable in quantity, and unnatural in composition; tongue foul, and what perhaps may be termed hysterical hypochondriasis existed to a great degree. A gentle cathartic, of infusion of senna, with tartrate of potash, was given for a few successive days before the clinkers were commenced. She had not taken the new medicine six weeks when most of the distressing symptoms disappeared, and her personal appearance became so improved, that her friends scarcely recognized in the ruddy girl before them, the pallid and unhealthy creature she once had been."

It appears greatly to benefit cases of simple indigestion, a few doses being capable of removing the most distressing symptoms. In that peculiar condition of the secretion from the bowels which is said to favor the formation or propagation of worms, it has proved advantageous in two ways—one by

its mechanical action, the other by its tonic properties. This was an accidental discovery made during its trial in a case of leucorrhœa.

When the medicine is taken for the first time, a train of symptoms frequently supervenes which would induce a stranger to its effects to regard it as a dangerous compound. A great weight is felt in the epigastric region, accompanied by a burning sensation in the stomach; sensations of sickness, followed by those of fainting, come on; these are soon relieved by eructations of flatus. Some complain of pains in the limbs, particularly in the joints, others of tightness across the forehead, with giddiness, while all are troubled with heat, dryness of the mouth, and great thirst. At the second dose these symptoms are moderated, and the third is generally taken without any unpleasant feeling. After it has been persevered in for a short time, sensations of a different character arise; these are hunger, and a feeling of health and energy to which, perhaps, the patient has been a stranger for many years; then the complexion, if pale, commonly receives a ruddy tint, and the muscular fibre becomes firm and enlarges. After the first dose the fæces are like pitch, the urine generally pale and large in quantity; the bowels, if previously costive, become regular in their action; the pulse increases in volume, and the skin is pleasantly relaxed. To sum up its medicinal properties;—it may be said that the clinkers are tonic, stimulant, anthelmintic, and colorific, adapted generally to leucophlegmatic habits, and especially to female diseases, where a chlorotic condition of the constitution prevails.

My attention being called to this article by the high encomiums of Dr. E., I determined, during the last summer, to test its virtues. Not having many suitable cases in my own practice, I requested several of my medical friends to give it a trial; and as the result of these experiments I can say, that the clinkers promise to be one of the most valuable chalybeate preparations belonging to the Materia Medica, when its properties and uses shall have been thoroughly ascertained.

It seems to be particularly adapted to all cases where de-

bility of the intestinal tube, and constipation of the bowels exist, on account of its laxative properties. In all cases where I have used it, or known it to be used, it has kept the bowels gently open, even where the most obstinate constipation had previously prevailed. But it may be used as a most valuable tonic in cases accompanied with diarrhœa, by combining it with some astringent medicine. In one case of indigestion accompanied by diarrhœa of long standing, produced by dissipation, it was used in combinanation with catechu, with marked benefit; so much so, that I have been written to for the prescription, since my arrival at this place. It appears to me that most of the unpleasant effects arising from its use, mentioned by Dr. Edwards, might be obviated by properly regulating the dose, and combining it with other articles to suit each particular case. At least, I have not witnessed the disagreeable effects which he mentions. Doubtless, as in all cases where powerful remedies are employed, a proper discrimination is required in its use.

It may be exhibited according to the directions already given, or it may be administered in doses of from 20 to 40 grains, in molasses, or syrup, or any other adhesive vehicle; and should be always combined with some stomachic if it be not contra-indicated.

I have used it in several cases where a laxative and tonic were required, and always with the happiest effects—the greatest objection to the article being the unpleasant, gritty taste which it leaves in the mouth, owing to the difficulty of reducing it to an impalpable powder.

The following cases were furnished me by my friend, Dr. Sharp, who made trial of the article at my suggestion:

Case I.—A girl, about 12 years of age, had been in bad health for two years, supervening upon a badly cured intermittent fever. Countenance sallow; eye-lids œdematous; lips very pale; tongue presented a flabby and exsanguineous appearance; abdomen very much swollen; little appetite; digestion bad; bowels seldom moved without cathartic medicine; feet and legs œdematous; pulse 120 and weak. She

had a paroxysm of fever every 24 hours, preceded by a chill. This patient had been confined to the house for two years, during which time she had been treated by several physicians without benefit.

The pulverized clinkers were given to her in 20 grain doses, three times a day, in a table-spoonful of honey. This was continued about six weeks, when the rosy hue had returned to her cheeks and prolabia, the œdema and abdominal swelling had subsided; her appetite was good and bowels regular.

After this, the medicine was continued in 5 grain doses, three times a day, for three months, at the expiration of which time she was so far recovered as to be able to go to school.

Case II.—A negro woman, aged 35, had given birth to her last child 14 years previously, from which time she had been afflicted with leucorrhœa; discharge profuse, purulent and greenish; considerable pain in the lumbar region and uterus at times; just able to walk, except about her monthly periods, when she was confined to her bed; menses small in quantity; leucorrhœal discharge more profuse at these periods, and frequently so acrid as to excoriate the parts with which it came in contact; hysterical symptoms; headache, with occasional giddiness; pulse 90 and weak; such enlargement of the abdomen that she had the appearance of a woman in the latter months of pregnancy; countenance pallid; general debility; tongue pale, flabby, and loaded with a thick fur; appetite bad and capricious; sour stomach, with great desire for antacids; bowels constipated, seldom moved unless by a cathartic; sleep disturbed and not refreshing. Being a favorite servant, the skill of a great many physicians had been exhausted upon her, but without affording her any relief.

She was put upon the clinkers according to the original recipe, except the ginger and magnesia, which were omitted. For three weeks the symptoms were aggravated by the use of the remedy. The bowels were moved very freely, showing the necessity of intermitting its use; the discharge from the vagi-

na was also increased, and more offensive. In a word, she thought herself getting much worse. After this she commenced improving rapidly, the enlargement of the abdomen subsiding, and all the other symptoms improving. In a very short time she was so far recovered as to become pregnant, which had not happened before, during the fourteen years of her illness.

In all probability, the unpleasant purging in this case would not have occurred if the medicine had been given at longer intervals, or in smaller doses.

Case III.—A lady, 26 years of age, had been afflicted with leucorrhœa for several years occasionally, but she had borne children in the mean time. For the last three months before I saw her, the discharge had been much increased. In addition to this, she was greatly harrassed with what she represented to be boils, about the size of a hickory-nut, located on the external labia and perineum—one crop of two or three would make their appearance, and as they declined be followed by another; she was very much debilitated by the irritation thus constantly kept up; bowels constipated; considerable distension of the abdomen; pulse weak and frequent; tongue flabby and loaded with a yellow fur; no appetite; acidity of the stomach; headache, with occasional giddiness and blindness; pain in the lumbar region, also in the right side, extending to the shoulder; urine high colored and scanty.

A tea-spoonful of the powdered clinkers in a little honey was ordered three times a day, with intermissions, as already mentioned. Cooling lotions were applied to the boils.

She commenced improving immediately, and in the course of a month was entirely cured.

Dr. Sharp informed me that he had used this remedy in several other cases, where a tonic was required, with marked benefit, and never with any unpleasant consequences; it always operating *gently* upon the bowels, except in the case of the negro woman, whose case has been detailed, in which instance it purged powerfully.

Louisville, March, 1843.

ART. II. *Remarks on the Diseases which prevail in Tennessee during Summer and Winter.* By JOHN W. RICHARDSON, M. D., of Rutherford County, Tenn.*

The diseases of our climate may be divided into two great classes; namely, into Summer and Winter complaints. The chylopoietic viscera, as a general rule, suffer primarily in those of the hot season, as the lungs, the serous and fibrous membranes, are the parts which are most apt to take on disease in the cold season. The diseases of spring are generally a complication of those peculiar to the winter, with some resemblance to those of the warm season; and the diseases of autumn partake much of the character of those of the summer preceding, and, when they continue late, run into the diseases of winter.

Cholera morbus, fluxes of various kinds, gastritis, enteritis, hepatitis, and similar affections, make up the large catalogue of Summer diseases; and they are almost always produced by irregularities, and imprudence in diet or drink; or by exposure to a cool and damp atmosphere, by which the cutaneous secretion is suspended, and the equilibrium of the fluids destroyed. Another great cause of disease is exposure to the sun. The hot season of itself predisposes to the diseases above enumerated, by producing a continued stimulation of the capillary vessels, until they become debilitated by over excitement. The nervous filaments are also debilitated from the same cause—a general *malaise*, with weakness and trembling ensue—a centripetal action is given to all the fluids in a slow and almost imperceptible manner, or else some excitant being thrown into the stomach in the form of indigestible food, acts as an irritant and induces disease rapidly.

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*Dr. Richardson, as Orator of the Medical Society of Tennessee, read this paper at the meeting of the Society, in May last. In publishing it, we have felt it due to its intelligent author to omit those passages of a popular character which were designed especially for the members of the Society, and for the region in which the address was delivered, but which could not be expected to interest the readers of our Journal.

The most remarkable evidence of disease is the broken balance of the circulation. The equilibrium is destroyed and the burden falls upon the internal organs. Vomiting frequently comes on at this point, and if the malign cause has done no more than simply irritate the stomach, the vomiting ejects the offending substances, an equilibrium is again partially or entirely restored, and, if the patient keep his stomach empty, for a few hours, he gets well. And it is a remarkable fact that those very articles which act as irritants on our stomachs in summer, can be taken with perfect safety in winter. Is it not altogether probable that the process of respiration in cold weather prevents such substances from exerting any deleterious effect upon us? There seems, in fact, to be an absolute necessity for the very articles in winter which we cannot use with impunity in summer. This appears to have some relation to the respiratory function; in other words, to the consumption of oxygen, which is greater in cold than in warm weather. If we may rely upon the facts and reasonings of Professor Liebig, a close connection exists between the quantity of oxygen respired, and the amount of food requisite to maintain the heat and the health of the animal, and a solution is afforded of the well-known fact, that the process of digestion is most vigorous in cold climates and a low atmospherical temperature.

The disease of the greatest moment, and the one which attracts our attention more than any other in summer, is *Fever.* This malady, whose protean forms have excited the curiosity of every man, whose peculiar location has evaded the search of the most diligent, and whose dreadful ravages have baffled the skill of the most learned, still remains a subject of controversy. Fevers exist in every season, and it is very strange to me that fever in the summer and autumn should be called *the* fever, while the same disease in winter should be expressed by some other name; or rather, it is more strange, that fever in the winter should be correctly defined, while fever in the summer is not defined at all. For I affirm, that the article *the*, although used especially to define some particular thing, does

not define anything when applied as it commonly is to fever But I may be told we do understand the form of fever when it is defined by the article the. I answer, we do not. Nor can any man prescribe correctly for "the fever." He must first inquire for the symptoms, if he be absent; or, if he be present with the patient, he must examine for himself before he can prescribe correctly.

It is true, the expression, "the fever," usually produces in our minds an association of symptoms which have been generated there by education and observation; but how often is it the case that so much dissimilarity exists, not only in the fevers of different seasons, but also in the fevers of the same season, in different locations, and even in members of the same family, that we cannot prescribe for every case correctly, unless we first see and examine each individual patient. It is very true that many physicians look on every case of fever, arising in the "fever season," as being produced by the same cause, and therefore conclude that the same organs must necessarily be primarily affected, and that a routine practice may be pursued; than which conclusion nothing is more fallacious in theory, or more disastrous in practice.

What gives the peculiarity to fevers? We answer that the season of the year in which the fever arises gives it its greatest peculiarity. Certain seasons, and their vicissitudes predispose certain organs to disease, and it is the disease of those organs which characterises the form of fever. Why, then, are the fevers of the hot season different from those of the cold? We answer, because different organs and tissues predominate in point of disturbance, and give rise to a particular class of symptoms, which in the aggregate are denominated "the fever;" but which require in different cases a modified plan of treatment.

The main question, however, and the one of most difficulty for us to determine is this: *which are the organs most predisposed to disease*, in differsent seasons, *and why are they so predisposed?* As a line of separation can be easily drawn by the close observer between the diseases of the hot and cold sea

son, we shall proceed to speak particularly of them; and first, of those peculiar to summer.

As already remarked, the diseases of summer are seated in, and produced primarily by derangement of, some one or more of the chylopoietic viscera, at the head of which stands the stomach. The second in importance is the small portion of the intestinal canal; the third is the liver. And we doubt very much whether there ever was, or ever can be, a summer disease in which one or the other, or all three of these organs are not primarily involved. True, the predisposing cause may operate upon some other part of the system before these viscera are implicated. If, indeed, we except the stomach, which is sometimes promptly disordered by ingesta, the action of the malign cause can never be exerted directly on either of those organs. But that it is in one, or more of them, that the force of the malign cause is spent, and from which all or the most of the morbid effects are radiated, is, we think, entirely demonstrable. And it is also true, that often before we can discover any sign of disease in either of those organs, the whole system has been convulsed by an ague, which is followed by considerable arterial excitement, and all the pains and aches belonging thereto; but in a short time the system relieves itself from this condition, and unless the predisposing cause continue to operate, or the morbid action which was first induced thereby has produced some point of disease, which becomes now of itself a cause, the patient is nearly well. If the predisposing cause be removed, or the patient be removed from its influence, unless some local, organic disease has been induced, the fever will subside of itself.

But in many instances, in summer, we see great derangement of those organs in which the arterial system does not for a time, perhaps not at all, participate, until from considerable ravages every part of the system is affected. And no man pretends to call such cases *fever*. Vomiting, diarrhœa, and cholera morbus are frequent diseases of summer, and how often is it the case that they pass off without inducing a febrile paroxysm? and how often, too, do they usher in the very

worst forms of fever? No man can tell whether such a case will terminate in fever. If arterial excitement be superadded to the other symptoms, we call the complaint fever; and here I will remark that the cases which most perplex the physician are those in which a deranged condition of the circulation persists after he has, as he imagines, removed every local cause. But we may be asked, may not this deranged circulation be dependent upon disease of the membrane lining the heart and arteries? We answer yes; and it is upon the correct settlement of this question, in such cases, that will depend the fate of our patient. Memory recalls to my mind some cases of this kind, where the deranged circulation was attributed to an improper source. The *liver* is often charged with it, and a system of purgation is adopted, which, instead of relieving the patient, actually leads to his death. Or this quick, irritable, small pulse, as it is called, may have been produced by improper purging, in the first instance, causing a highly irritated or inflamed condition of the small bowels, in which case the continued use of cathartics will aggravate instead of relieving the symptoms.

The temperature of the summer season is the great predisposing cause of disease. The atmosphere in the hot season becomes warmer and thinner; the whole exterior man is exposed to the increased temperature through the dermoid covering, in which are ramified a large part of the blood vessels belonging to the systemic circulation, and also a proportional part of the nerves. The capillary system of the smaller circulation and its concomitant nerves are also directly exposed to the atmosphere by their ramification through the lungs. Through these two media then, the skin and the lungs, we are directly exposed to the temperature which is peculiar to each season, and also to the vicissitudes of the seasons themselves. It is easy to conceive that some change—some abnormal condition, must be produced in the human system thus exposed.

The transition is often sudden, from heat during the day to a cold damp atmosphere at night. The high temperature causes the capillary vessels to dilate, and also highly excites

the nervous filaments; in consequence of which, the blood flows freely to the surface. The low temperature has precisely the contrary effect: the capacity of the capillary vessels is decreased, sometimes very rapidly; centripetal action is given to the fluids, and the internal vessels receive a surplus; plethora of one or more organs is the result, and unless they relieve themselves by increased secretion, as the skin did in the former case, disease is the inevitable consequence. This plethora, or congestion, as it is usually termed, is generally induced in some of the abdominal organs, and the reason why disease is generated in them rather than in the lungs during hot weather is, simply, that the capillary system of the lungs is operated on immediately, and influenced by the same causes and in the same manner that the capillary system of the larger circulation is through the skin; both systems being similarly affected by temperature and its changes. And it is fortunate for us that this is the case, for if the capacity of the pulmonic capillaries could not be increased by temperature, we should be exposed to a class of diseases at a season of the year when, of all others, they would be the most unmanageable, because they would be complicated with chylopoietic derangement. Every practitioner is acquainted with the difficulty of treating thoracic inflammations, especially of the lungs, when they are complicated with irritation or inflammation of the stomach, bowels, or liver. But, fortunately, the most acute, rapid, and dangerous inflammations of the lungs occur at a season of the year when the chylopoietic organs are less liable to take on disease, and we have a single and simple malady to treat.

When the equilibrium is destroyed in the circulation, whether it be produced by exterior causes, or from an excitant within, or by both conjointly, nature generally makes an effort to rid the system of the offending cause by emesis, which she frequently does; and at the same time that the vomiting ejects the irritant from the stomach, it also gives a centrifugal action to the fluids. In this manner the equilibrium is frequently restored, and if the congestion in the internal or-

gans has not already caused local lesion and produced a point of irritation, the patient will in all probability be shortly relieved.

There are other causes eminently productive of disease in the chylopoietic organs, during the hot season: I allude to articles of food and drink. And here I must be permitted to raise my voice against an article esteemed a great luxury in hot weather—I mean ice. Ice never was designed for man in summer as an article of constant use. As a medicine, it is not only a luxury, but a remedial agent of much value. I cannot, however, conceive of a practice better calculated to impair the action of the stomach, than frequent and large draughts of ice-water in hot weather. There is no danger in drinking ice-water in cold weather; no man ever heard of any one's being injured by it. But I honestly believe that much of the disease of our southern cities is produced by this very article, in the hot season. The common water of our springs and wells is sufficiently cold for a healthy man, and even it occasionally produces death very suddenly when taken imprudently. I know that the water in many cities is not only warm, but offensive, and really requires something to make it potable; my advice to the inhabitants of such places would be to use ice water sparingly, if they would pass a healthy summer. Better drink water a little above than below the common temperature of good spring water.

The treatment of summer diseases, and especially of fever, is a subject of great importance. No one has yet given us a correct treatise upon this subject; nor is it probable that we shall ever have one. Not that fever is not successfully treated by many physicians; we know that this is the fact. But, sir, can you sit down and tell of your students how to treat "the fever." If you can, I acknowledge I cannot. Fever is the consequence of a thousand causes, and the great secret in subduing a fever of any form is to ascertain the cause. Remove that and the fever will leave the apartment.

Our remarks upon the treatment of fever must of necessity be very general. The intermitting form of the disease, the

simplest of all the complaints of the hot season, is characterized by a chill, head-ache, pains in the back and extremities, frequently vomiting, and then considerable arterial excitement, the continuance of which depends mainly upon the peculiar periodicity of the disease: a copious diaphoresis usually terminates the paroxysm, and the man looks and feels pretty well. The second, third, or fourth day, as the case may be, he has another paroxysm, and at the regular time, a third, and so on. I have seen a man have an ague, followed by high arterial excitement, and profuse perspiration, the paroxysm terminating and again returning in six hours from the attack. This state of things continued for three days, resisting all the ordinary remedial agents, and was finally arrested by giving sixty grains of calomel, and repeating the dose twice in sixteen hours. Each dose procured one evacuation, and only one, from the bowels. The periodicity was completely broken up, and although the agues returned at irregular intervals, they were arrested entirely in a few days by giving sixty grains of calomel every twelve hours. I expect if Dr. Chapman were to hear of this, that he would have me published in every newspaper from the Lakes to the Gulf of Mexico. Well, it made no "holes in his head"—destroyed neither his nose nor his jaws: no, it did not even inflame his gums, nor produce any fetor in his breath.

Do not from this case, however, deem me extravagantly fond of calomel. I am not. I had the mortification, a little more than twelve months since, to see one of my finest children killed by it. She was just past five years of age, and was the subject of the terrible epidemic I described at our last meeting. I gave the medicine myself; three five-grain doses, and one dose of ten grains in the course of forty-eight hours. Her jaws ulcerated—her tongue sloughed, and such a pitiable object I trust never to behold again. So, I present you with two cases—both pictures accurately drawn, and conclude by saying that I never use calomel when other remedies will answer my purpose. When a little will produce the effect, it is wise to use the smallest amount.

The treatment of the intermittent form of fever is usually very simple. An emetic, six hours before the expected paroxysm, and a dose of calomel, rhubarb, and aloes, equal parts, in the form of pills, three hours before the chill, will arrest many cases. If these means fail, sulphate of quinine, taken during the apyrexia, will almost always succeed. The efficacy of quinine in fevers seems to depend not upon any tonic qualities, but upon its febrifuge principle. It prevents the recurrence of a paroxysm by giving a centrifugal action to the fluids, and restoring their equilibrium. It acts principally on the nervous system. Almost every man in the community knows what will cure fever and ague, but the people do not often succeed in it. The reason is this: they neither give the medicine at the proper time, nor in the proper doses. This is the great secret in treating not only intermitting but remitting fevers. Purgatives should always be given in the intermission or remission—about three hours before the expected paroxysm.

The treatment of the Congestive form of fever, as it is commonly called, is more difficult, and requires vigorous and prompt remedies. Many authors who write about this form of fever, I am sure, never saw a case of it; and some even deny the existence of any such disease. It has fallen in my way to see much of it. I treated a great many cases in the fall of 1835, and again in the summer of 1839 and 1840. The paroxysm in bad cases is generally ushered in with great distress in the præcordial region, difficult respiration, attended with frequent and deep sighing, pain in the head and back, vomiting, shrunken features, purgings of various kinds, sometimes like rice water, with green flocculi floating in it—these flocculi are nothing but mucus when you wash off the green tinge. Again, I have seen as much as half a gallon of reddish serum thrown off at once; great thrist attends with restlessness, and a constant desire for fresh air. Reaction comes on after a while, slowly, and is generally very partial. In the course of twelve hours the patient becomes tolerably comfortable, and if you did not know what had been his condition, you would say there was not much the matter with him.

But the next day would disclose to you the alarming state of things. You may succeed in getting him through the second paroxysm, but if you have not afforded him relief before the third supervenes, you have hardly anything to hope.

I should be glad to give you the treatment of such a case in a stout healthy man, and also in a pregnant female, but it would be extending this paper too far. I may do so on a future occasion.

The next, and most important, inquiry is, how are those attacks of fever to be prevented? If miasmata be admitted the exclusive cause of fever, I have nothing new or interesting to communicate. But I am certain that these agents are charged with a great deal too much. I have practised medicine for eleven years, during which time my practice has been extended over every peculiarity of location to be found in Rutherford county: on creeks, on the river, on frog-ponds, and mill-ponds—over the rich alluvial soil common to our water-courses, and on the dry, gravelly oak-ridges removed from the river, and among the rocks and cedars where a domestic hen could scarcely find leaves enough to make her nest; and I declare that I have seen as bad forms of fever in one district as in the other. I have seen the worst forms of fever pervading the high lands during the hot season, when the people on the river and creeks were comparatively healthy. I am not prepared to deny the malarious origin of our summer and autumnal diseases. I know those diseases are very common in districts known as malarious; but may they not be produced by other causes, independent of miasmata? The atmosphere undergoes great changes, sometimes very rapid changes, in such districts in the course of twenty-four hours, as respects density and temperature. Considerable impression must be made on the extremities of the sanguiferous and nervous systems, and here the first impression is usually observed from the action of external malign causes. But I forbear going into a discussion of this subject.—The preventives consist in as little exposure to the sun as possible, and when exposed, moderate labor is better than idleness; the night air should be

avoided; and if you are compelled to ride, put on some additional clothing, and take a little light nourishment. The diet should be vegetables, chiefly—stomach never to be loaded with anything—after labor, or exercise, care to be used not to cool off too rapidly—fires to be kindled in our houses, every morning and evening, and ice water to be avoided. These precautions being observed, my experience and observation authorize me to say, that we can live in "the malarious district" and escape "the fever."

Another disease peculiar to the hot season, is Cholera Infantum. This is indeed a tangible something—a disease, about which we can understand each other. Cholera infantum or "the summer complaint," is a disease peculiar to children in the hot season, provided they are of, or near a certain age. When I say that it is peculiar to children of a certain age, and during the hot season, I do not mean to be understood as conveying the impression that children will have cholera infantum, in the summer, in any event. I mean simply, that the offending causes from without and within the system, are peculiarly apt to induce cholera infantum in children of a certain age, during the warm season. Children who are born in the winter or spring, generally pass through the first summer without any inconvenience from this disease. Two causes are mainly instrumental in producing it. The increased temperature is the great *predisposing* cause, but improper clothing and feeding are the two fruitful agents in bringing on the attack. I am aware that *dentition* is usually assigned as the cause, but this idea always seemed irrational to me, and to be founded in fact upon erroneous physiology. It is true, that cholera infantum is most common with children during the period of dentition, but then I cannot adopt a philosophy which charges a naturally healthy process with the production which those distressing and dangerous diseases which befall children at that period. The true reason why this disease generally appears in children of a certain age and during the hot season, has always seemed to me to be this:—Children are usually weaned between the ninth and the eighteenth month; den-

tition usually commences before this period and continues beyond it. The change in the diet of children is a fruitful exciting cause. They are seldom fed on such articles as they ought to have, and their food is usually badly prepared, and the feeding succeeds the weaning too suddenly. Solid articles of food, and often of an indigestible character, are given to them before they are able to masticate—they swallow them in the solid form—an irritant is thrown directly into the stomach, to run the whole course of the digestive tube, and finally to be thrown off in the same state in which it was received. Children, while being weaned, are treated after this manner four or five times a day, and then often put to bed at night with a piece of cake in their hands.

Improper clothing is another cause of cholera infantum. Children are easily impressed by atmospheric vicissitudes, if they are not attended to, and their clothing such as will keep up an harmonious action between their systems and the change without. A good maxim, then, for old persons, as well as for children, is to change their clothes with the changes of the weather, and always to err, if either way, on the side of too much, rather than too little clothing. Children during this period are generally too thinly clad, and their clothing is scarcely ever adapted to the vicissitudes of our climate.

The disease, at the onset, is easily managed. An emetic to empty the stomach, if it has not already been emptied sufficiently, and a brisk calomel purgative, if the bowels have not been actively opened, will relieve the majority of cases. But if the complaint is of several days' standing, it frequently becomes serious, and quite intractable, unless treated with judgment as well by the nurse as the physician. Alterative portions of calomel, combined with prepared chalk and ginger, I have found an excellent remedy, given in small doses, and at short intervals; allowing the child but little to eat or to drink. The warm bath to invite the fluids to the surface of the body, and, if there is much inaction in the capillary vessels, a flannel shirt are to be adopted. I know this is contrary to the views of many physicians, but I am able to sustain it against any at-

tack, let it come from what quarter it may. A flannel shirt, in the month of August, sounds like an absurd remedy to many ears, but experience confirms its remedial virtues in chronic cases of cholera infantum. My advice to mothers would be either to wean their children before the warm season commences, or else, if practicable, to postpone it till cold weather.

Here my remarks upon the diseases of the hot season must close. Without exhausting the subject, I have said enough to afford an outline of the causes which produce them, and of the treatment which I have found effectual in relieving them. The same general remarks will apply to all our summer diseases.

The complaints of winter are the next in order, having already premised that those of autumn and spring are of a mixed form, partaking of the character of those of the summer and winter preceding, and inclining also to those which are shortly to follow.

The diseases of winter are principally confined to the lungs and their appendages. I have already alluded to the distribution of the capillary vessels through the lungs, and endeavored, briefly, to show the reason why the lungs are not so much disposed to take on disease during the hot season, as the abdominal viscera. This I attempted to account for by the fact, that the capillaries of the lungs are immediately and directly influenced by the increase of temperature equally with the capillaries of the skin. The process of respiration carries to them every vicissitude of temperature which the atmosphere experiences. Another reason why they do not suffer equally with the abdominal viscera, is to be found in the comparative shortness of their veins, and the activity of their circulation. Still the lungs are liable to disease; but I would remark that no viscus in the great cavities is more easily relieved of inflammation than the lung, provided there is no predisposition in it to tubercle. The treatment is simple, and must be prompt, decisive, and energetic.

I would revert to the subject of fevers for one moment, for

the purpose of remarking, that during the stage of congestion the lungs are seriously implicated, as is evidenced by the tightness across the chest, the difficulty of breathing, and other symptoms. This state of things, however, ordinarily passes away with the particular stage of the fever, and the lungs sustain no lasting injury. But this is not always the case. If tubercles exist in the lungs they are rapidly developed by the febrile commotion, and the agues are followed by phthisis pulmonalis. Thus, it has been the remark of all physicians in this region of the State, that the cases of consumption were greatly multiplied after the sickly summers of 1839 and 1840.

The only other point belonging to the subject which I shall stop to discuss is, why are the lungs and their appendages, and the serous, fibrous, and fibro-cartilaginous membranes generally, more predisposed to disease in winter than they are in summer? That pleurisies, pneumonias, catarrhs, rheumatism, &c., are peculiarly diseases of winter, is a fact which no one will question. But why is it, that while exposure, in summer, to the night air, induces affections of the abdominal viscera, exposure to the same cause in winter, will induce disease of the thoracic organs, or an attack of inflammatory rheumatism? These diseases are regarded as essentially inflammatory; no controversy can exist as to their pathology. Why they are the products of cold weather, especially, is a question which it may be hazardous to attempt to answer; but if I were to venture an opinion concerning the cause, I should say that it was connected with the large amount of oxygen inspired, and of carbonic acid exhaled in a cold atmosphere. But, whatever may be the latent source of these maladies, the concurrence of the profession relative to their treatment is very decided, and leaves but little to be said on this point. Every practitioner understands that the measures demanded are the antiphlogistic—the lancet, tartar emetic, calomel and opium.

May 1, 1843.

[At the conclusion of Dr. Richardson's Address, a member of the Society, in reply to the allusion to Professor Chapman, remarked that the friends of that

distinguished teacher had disavowed for him the authorship of the ridiculous paragraph, which went the rounds of the newspapers, about a year since, describing, in exaggerated terms, the injuries resulting from the employment of calomel. As the allusion is retained in the paper now published, this statement seems to be due to all the parties concerned. Y.]

ART. III.—*A Case of Renal Calculi, with Abscess and Destruction of the right Kidney.* Reported by R. MARTIN, M.D., of Nashville, to the Medical Society of Tennessee. May, 1843.

On the 30th of January, 1841, I visited a negro man, the property of W. S. Y., Esq., who, in the latter part of the preceding month, had complained of violent pain in the abdomen, extending along the spermatic cord of the right side. When I saw him he had severe pain between the umbilicus and spine of the ilium, with a prominence of, perhaps, six inches in its several superficial diameters, pretty well defined, and acutely sensible to the touch. Along with an anxious and depressed countenance, a hot, dry skin, small, frequent and slightly tense pulse, his urine was scanty, his tongue nearly natural.

During the month of February his sufferings were materially mitigated by medical treatment, his appetite improved, and he slept pretty well at night; the sensibility of the prominent section of the abdomen abated, and about the first of March the prominence suddenly decreased in size, and was followed, as the patient reported, by the discharge at one time of at least a pint of pus through the urethra, and by smaller quantities at irregular intervals for some days. From that time his apparent improvement was more steady and obvious.

About the first of April, he thought himself able to go out to work, and did plough a part of a day, contrary to my advice, and without his master's permission.

From that time he again declined, the local fulness of the abdomen reappearing, and on the 22d of April, its character-

istic local prominence was merged in a less marked, though general increased volume of the abdomen. I did not see him until the 25th; at which time he had distressing and incessant hiccough, shrunken and anxious countenance, feeble, very frequent, thready pulse, violent pain and excessive tenderness over the entire abdomen—position, as when first seen, on the back, with the thighs flexed on the pelvis; skin cool and moist; extremities cold.

May 20th.—Patient died. This morning, corpse greatly emaciated, presenting an unusual dimension, forward and laterally in the upper third of the abdomen, and lower section of the chest—the whole anterior extent of this prominent section sounded dull on percussion. When the sternum was raised a healthy liver was found lying directly under the lower third of that bone, adhering by a very delicate texture of lymph to the anterior concavity of the diaphragm and parietes of the abdomen to its margin. Lower down in the abdomen, the omentum adhered to the walls of the cavity before, and to the intestines behind, and they to each other wherever there was contact. Five pints of consistent inodorous pus were taken from the abdomen, occupying every accessible portion of its cavity, though much the largest collection was found in the posterior part of the right lumbar, extending through the hypochondriac region, encroaching on the chest, by forcing the diaphragm upward, and the liver upward, forward and to the left, until it was brought into the position already described, and also displacing the heart, to some extent. In a word, every thing moveable was carried more or less upward, and to the left.

The peritoneum was here much thickened, and so it was in several other situations. In the chest were some adhesions.

No vestige of the right kidney, in its peculiar renal structure, was detected, but, occupying the right half front of the upper part of the first and second lumbar vertebræ, were found three calculi, enclosed in an enlarged sacculated ureter, the coats of which were very thick.

The bladder contained six or eight ounces of a more fluid

pus, and was healthy with two exceptions,—a slight thickening about the orifice of the diseased ureter, and a loss of substance, the superficial extent of which was equal to a shilling piece, and extending nearly through the bladder, while the characteristic features of ordinary ulceration were absent.

Every portion of the large intestines was occupied by a substance, in color an invisible green—wanting the odor of fæces—in consistence ranging from that of cheese to cream. In the rectum it was most firm; the small intestines contained a similar substance in smaller quantity, and of more fluid consistence.

The muscular coat of the intestines pretty generally, but especially of the large ones, was almost black, without any other apparent alteration in their physical structure. The same alteration of color was also observed in the portion of the ureters enclosing the calculi.

The length of time that elapsed from the escape of pus from its original situation, to the death of the patient, is a circumstance worthy of remark.

May, 1843.

ART. IV.—*A Case of protracted and difficult Labour, followed by Sloughing of the Vagina, and Recto-Vaginal Septum.* By Dr. JOHN P. ANDERSON, of Sparta, Alabama.

The case about to be described cannot be regarded as unimportant, in a practical point of view. It admonishes, in a manner the most impressive, of the danger of suffering the head of the fœtus to remain long impacted in the pelvis, pressing with such force against the soft parts as to arrest the circulation in them, and finally destroy their vitality. The unhappy subject of the following case has consulted an eminent surgeon, in the hope that the injury might be repaired by an operation. She has not received much encouragement, and meantime the particulars of the case are laid before the

profession. Should an operation be determined on, the result of it shall be communicated.

Mrs. B., æt. 24 years, was taken in labour in November, 1841; a physician was called in, who, on examination, ascertained that the waters had been discharged. On inquiry he was told that this had occurred some hours previously; otherwise all things promised well. Six hours passed without much increase of pain, but about the seventh hour it came on with such force that it was thought the child must be soon expelled, as the head had already descended far into the pelvis. In this situation things continued for thirty-eight hours, every effort at effecting delivery by natural means being made by the physician in vain. The powers of her system began now to give way, and as the medical attendant was reluctant to resort to embryotomy, although the child had been dead for some hours, the patient requested that I should be sent for, at a distance of forty-five miles. Many hours necessarily elapsed before I could reach her bed-side, and when I did so, I had the satisfaction to learn that her delivery had been accomplished two hours before. The head, of monstrous size, had been perforated, and removed, piece-meal, by her physician. Her life was thus preserved, but the most serious consequences resulted. The inflammation which followed, terminated in sloughing. A communication between the vagina and rectum was established, by the destruction of a large portion of the recto-vaginal septum, through which the fæces when fluid now find their way into the vagina, and are discharged involuntarily. She has perfect control over the urinary discharge, although the urethra was involved to the extent of five-eights of an inch in the sloughing. She menstruates regularly, and her general health is good. She is ready to submit to any surgical operation which affords any prospect of relief, preferring death to her present situation.

January, 1844.

REVIEWS.

ART. V.—*A Treatise on Food and Diet:* with observations on the Dietetical Regimen, suited for *Disordered States of the Digestive Organs;* and an Account of the Dietaries of some of the principal Metropolitan and other Establishments for Paupers, Lunatics, Criminals, Children, the Sick, &c. By JONATHAN PEREIRA, M.D., F.R.S., &. L.S., Licentiate of the Royal College of Physicians in London, &c. &c. Edited by CHARLES A. LEE, M.D. New York: J. & H. G. Langley. 1vol. 8vo. pp. 325. 1843.

In our last number we noticed, at considerable length, the Elements of Materia Medica, by Pereira—an encyclopedia of knowledge in that department of medical science—by the common consent of the profession, the most elaborate and scientific treatise on Materia Medica in our language. We have now to call the attention of our readers to a work by the same author on a cognate branch of science—the Materia Alimentaria—to a treatise on Food and Diet. They will agree with us, we suppose, that what one eats is a matter not less worthy of grave consideration, than what he takes from his apothecary. The study of the composition of aliments, and their adaptation to the various conditions of the sick, is one in which physicians must feel the liveliest interest. They know that their best directed remedial efforts are often rendered abortive, by the indulgence of their patients in unsuitable articles of diet. Daily it is their experience how difficult it is to impress upon nurses, and the friends of sick people, the importance of seconding their medicines by proper

dietetic measures. A treatise, then, embracing the latest discoveries on this subject, and presenting a summary of all the most important facts known in relation to the chemical constitution of alimentary substances, digested by a mind vigorous, and logical in its action, and stored with science, cannot prove otherwise than highly acceptable to the profession. Such a work is Pereira's. The industry, research, and judgment evinced in his earlier production, are the qualities required in the preparation of a treatise on Food and Diet. In reading this work, one is brought up to the present state of the extant knowledge on the subject. Its pages are enriched by the facts brought to light by the labors of Dumas, Liebig, and Boussingault, and the brilliant discoveries made in organic chemistry by these and other chemists, within the last few years, are faithfully reflected in it. A summary of all that chemical analysis has revealed, or experience taught, of the composition and qualities of the various substances which form our aliment, is to be found in this treatise.

We are glad that the work has been issued in so cheap a form, as well as that the style is such as to adapt it to the general reader, which circumstances, it is to be hoped, will insure it a wide circulation, and cause a knowledge of its valuable facts and conclusions to be generally diffused.

The author is burdened with no cherished theory, which he feels bound to sustain on all occasions. Facts from all authorities, chemical or physiological, are fairly and fully stated. He weighs testimony impartially, and is ready to receive the truth from whatever quarter it may come. He rejects the classification of alimentary principles, proposed by his countryman, Prout, and adopts that of the German chemist and physiologist, Tiedemann. In a word, he displays, throughout, an unprejudiced as well as enlarged and philosophical mind, a patience of research, and powers of reasoning which satisfy us, that the preparation of such a work could not have been committed to abler hands.

He adopts, as has just been stated, the classification of Tiedemann, who considers the subject of Food under the

heads of *Alimentary Principles*, and *Compound Aliments.* The former uniting compose the several articles of diet. Thus meat consists mainly of fibrine, albumen, gelatine, hæmatosin, fat, and water, alimentary principles; and wheat, of starch, gluten, sugar, and gum, belonging also to that class. But the alimentary principles are themselves compound substances. They contain varying numbers of simple, or undecomposed bodies. Fibrine, for example, consists of carbon, hydrogen, nitrogen, oxygen, phosphorus, and sulphur, known as chemical elements; the study of which is preliminary to the consideration of elementary principles.

Chapter I, therefore, treats of the *Chemical Elements of Foods*, of which there are thirteen; namely, carbon, hydrogen, oxygen, nitrogen, phosphorus, sulphur, iron, chlorine, sodium, calcium, potassium, magnesium, and fluorine. These, our author alleges, are the essential constituents of the human body, the presence of arsenic, lead, and copper, said to have been occasionally detected by certain chemists, resting, in his judgment, upon insufficient testimony. They are derived from our food, for "a living body," as Dr. Pereira correctly observes, "has no power of forming elements, or converting one elementary substance into another." It is possible that some of the bodies now esteemed elementary, may yet be decomposed and proved to consist of two or more elements. This is the conjecture of Prout, who believes that the lime found in the skeleton of the young chick is obtained by the transmutation of some of the so-called elements, which, under extraordinary circumstances he supposes the vital agents can effect. This, however, does not affect the truth of the proposition, that the living body cannot *create* an element, or change one element into another, for which, probably, no one will now contend.

Proceeding to notice the chemical elements individually, he commences with carbon, one of the most extensively distributed of substances.

"Carbon is an essential constituent of every living or organized tissue, both vegetable and animal. It is, therefore, a

necessary ingredient of food," and, accordingly, it is found in the seeds which afford nourishment to the embryo plant, in the yolk of eggs, which supply the young bird with food, and in the milk, "upon which young mammals subsist during the first period of their existence after birth."

The author gives a table showing the quantity of carbon contained in different foods, from which it appears that the nitrogenized substances—the *proteine compounds*—are composed of a little more than 54 per cent. of this element, and that the article of food richest in carbon is hog's lard, into which it enters in the proportion of 79.098 per cent. The quantity of carbon consumed, in the form of food, must, therefore, vary very considerably in different individuals, and in the same individual at different times. Liebig states that an adult, taking moderate exercise, consumes 15.3 oz. avoirdupois of carbon daily, and the statement rests upon observations made with care upon the food consumed by a number of soldiers in barracks. Assuming, then, that each of these soldiers consumed daily about one pound, avoirdupois, of carbon, and that they neither gained nor lost in weight, which is probable, what, asks our author, became of the carbon thus taken in the form of food? As it does not pass off with the excrements, there can be but one answer given to the question, and that is the one which Pereira makes, "that it is thrown out of the system by the lungs and the skin in the form of carbonic acid." He continues:

"By the union of carbon and oxygen, in whatever part of the system this is effected, heat must be evolved. At least, in all other cases, the formation of carbonic acid is attended with the evolution of heat; and we have a right, therefore, to assume, that the same takes place within the body. We are, in fact, acquainted with no conceivable reason why it should be otherwise. Now, according to Despretz, one pound of pure charcoal evolves, by its combustion in oxygen gas, sufficient heat to raise the temperature of 78lbs. of water from 32° Fahr. to 212° Fahr.; and this must be about the amount evolved in the case of the Darmstadt soldiers, independently of the heat produced by the union of oxygen with hydrogen hereafter to be noticed.

"It appears to me that we have a sufficient explanation of animal temperature in the chemical changes just referred to. Indeed, it cannot be doubted that a large proportion, if not the whole, of the heat evolved by animals, is produced by chemical action. But it is scarcely to be expected that experiments can be so nicely and delicately performed as to demonstrate in a precise manner the truth of this chemical theory of animal heat; for while, on the one hand, considerable difficulty is experienced in determining the actual quantity of combustible matter oxidated in the system, it is almost impossible on the other, to estimate, with absolute nicety, the amount of heat actually imparted by a living animal to surrounding bodies. The results of our experiments, therefore, can only furnish, at the most, approximations to the truth.

"Liebig has endeavored to show, that by the conversion of starch or sugar into fat, oxygen is supplied to the system; and that by the union of this disengaged oxygen with carbon (from the bile, for example) heat is developed. Suppose 1 equivalent of carbonic acid, CO_2, and 7 equivalents of oxygen, O_7, to be abstracted from one equivalent of starch, C_{12} H_{10} O_{10}, we have, in the residue, the empirical formula for fat, C_{11} H_{10} O.

RELATIVE COMPOSITION OF STARCH AND FAT.

1 eq. Starch . .	C_{12} H_{10} O_{10}	1 eq. Fat, . . .	C_{11} H_{10} O
		1 eq. Carbonic Acid	C O_2
		7 eq. Oxygen . . .	O_7
			$C_{12}H_{10}O_{10}$

"The oxygen thus presumed to be separated from the starch can only be disengaged in the form of either carbonic acid or water, or of both; therefore it must have combined with carbon or hydrogen, or both. Now, Liebig has adduced several reasons for presuming that heat must attend the formation of carbonic acid under these circumstances. 'Thus,' says this distinguished chemist, 'in the formation of fat, the vital force possesses a means of counteracting a deficiency in the supply of oxygen, and consequently in that of the heat indispensable for the vital process.'

"In the natural and healthy condition of the system, the food supplies the necessary carbon for the support of animal heat, but when food is withheld, the fat of the body is consumed; its carbon being converted into carbonic acid, its hydrogen into water. Experience has satisfactorily shown that the heat of the blood in health is the same in all climates and in

all conditions of atmospheric temperature. Now it follows that a larger quantity of combustible matter is required in cold climates and cold weather, for keeping up this temperature, than in hot climates and warm weather; since a greater amount of heat must be given off to surrounding media in the former than in the latter. Hence the necessity for a more liberal supply of food in cold weather."

Still, our author is not prepared to go the length of asserting, with Liebig, that if we were to go naked, as the Indians, or if in hunting or fishing we were exposed to the same degree of cold as the Samoyedes, "we should be able to consume the half of a calf, besides a dozen of candles." The influence of a frozen region in augmenting the appetite is admitted, but it is an error, he maintains, "to ascribe the voracity and gormandizing powers of some of the natives of these regions to the influence of cold only." He is rather disposed to look for the strength of the propensity to eat, "in an organ of alimentiveness," the activity of which leads to glüttony in individuals of all nations. He agrees with Liebig, however, that diseases of the liver in tropical climates and hot seasons, may arise from the accumulation of carbon in the system. His words are,

"When the external temperature is high, less carbon is requisite to support the natural heat of the body, and in consequence of the air being expanded, we inhale, at each inspiration, less oxygen by weight than in colder climates and seasons. If, therefore, we continue to consume large quantities of food, there will be an excess of carbonaceous matter in the system.

"The influence of external temperature, excess of food, and want of exercise, on the condition of the liver, is well shown in the goose. The celebrated *pâtés de fois gras*, prepared at Strasburg, are made of the livers of geese, artificially enlarged, 'by the cruel process of shutting the birds up in coops, within a room heated to a very high temperature, and stuffing them constantly with food.'

"In tropical climates and in hot seasons the system requires a smaller quantity, and a less carbonaceous quality, of food than in colder countries and in cold seasons; and the frequent occurrence of hepatic disease among Europeans, who reside in

tropical countries, is probably in part owing to their continued employment of a dietetical system fitted for colder climates."

Hydrogen, like carbon is an essential constituent of every organized tissue, and a necessary ingredient in the food of every living thing. It abounds in the farina and oil of seeds, in the albumen of eggs, and in all the constituents of milk. As the carbon is converted into carbonic acid, the hydrogen, in its ultimate changes in the system, must become water, and in the change must evolve much heat. One pound of hydrogen, according to Despretz, by combustion with oxygen, liberates sufficient heat to raise the temperature of 236lbs. of water from 32° to 212°. Hence, remarks Dr. Pereira,

"Part of the heat developed in carnivorous animals must arise from the oxidation of hydrogen; for, in the first place, hydrogen (as of the fat) disappears from the system, and there is no other mode by which it can have done so except by union with oxygen, and its consequent conversion into water. In the second place, of the atmospheric oxygen taken into the lungs during inspiration, the whole is not found, in the inspired air, in union with carbon, nearly every experimenter having detected a loss."

Oxygen is a large and indispensable ingredient of our food. No other element is so abundant in nature, or performs so many important offices. In almost every change which takes place among natural bodies it is an essential agent, and is so intimately connected with the processes of life, that they speedily cease when its influence is withdrawn. As it causes combustion in the lamp by uniting with the oil, and developes electricity in the voltaic battery by oxidizing the metal, "so animal life seems to be inseparably connected with the influence of oxygen on the organism. Interrupt the influence of oxygen, and the flame is extinguished, the electrical current is stopped, and all vital phenomena cease." In each case, the action of the oxygen seems destructive—matter is consumed, or converted into other shapes. The metal is oxidized and dissolved, the oil exhales as carbonic acid, and parts of the animal body also are converted into this gas. Oxygen, then,

the *vital* air, acts on the organism to consume it; and "man, and every other animal, are exposed at every period of their lives to the unceasing and destructive action of the atmosphere; with every breath he expires a part of his body, every moment of his life he produces carbonic acid, the carbon of which his food must replace."

The relative proportions of oxygen and carbon in certain kinds of food are given in the following table, taken from Liebig:

RELATIVE PROPORTIONS OF CARBON AND OXYGEN IN ALIMENTARY PRINCIPLES.

In Fats (on an average) - - -	120	eq. of Carbon	10	eq. of Oxygen.
In Fibrine, Albumen, and Caseine	120	"	36	"
In Starch - - - - - - - - -	120	"	100	"
In Cane Sugar - - - - - - -	120	"	110	"
In Gum - - - - - - - - -	120	"	110	"
In Sugar of Milk - - - - - -	120	"	120	"
In Grape Sugar - - - - - -	120	"	140	"

The carbon and hydrogen of the food being, for the most part, thrown out of the system in combination with oxygen, it follows that the consumption of oxygen must vary with the quality of food, being greater when animal food is eaten, and less when the diet is chiefly composed of vegetables. This view is confirmed by the experience of the diver, Spalding, who consumed more of that air in his diving-bell, when he had used a diet of animal food, and also by the experiments of Fyfe, who found that the consumption of oxygen was greatly reduced by the employment of vegetable diet.

Nitrogen is the next element of the vital tissues. "The chief ingredients of the blood, says Liebig, "contain nearly 17 per cent. of nitrogen, and no part of an organ contains less than 17 per cent. of nitrogen." Fat and water are components of the animal body which are destitute of nitrogen, but they are not considered as organized or living substances. For the development, nutrition, and renovation of all the living animal parts nitrogen is essential; it is therefore to be found in all the articles from which young animals derive their nourishment. It constitutes an element in the yolk of the egg, and is one of the elements in the caseine of milk. In the proteine compounds its average per-centage is over 15, in the

gelatinous tissues about 18, in wheat dried in vacuo 2.3, in peas similarly dried 4.2, in dried potatoes 1.80, in cabbage dried ot 212°, 3.70, in carrots, also dried, 2.40, in turnips, in the same condition, 2.20. We have shown, in a former number, that it is the opinion of Liebig, as well as of other chemists, that it is only the *nitrogenized* elements which are capable of conversion into blood, and of forming organized tissues, and that the *non-nitrogenized* foods, although indispensable to the comfort and very existence of animals, are only so as being necessary to support the process of respiration—in other words, to maintain animal heat.

Some objections are brought forward by our author against this doctrine, but we shall not stop to consider them. The fact, now fully established, that the food of all animals, herbivorous and carnivorous, contains nitrogenized matters, identical in composition with the principal constituents of the blood, is of itself sufficient to render the hypothesis of Liebig highly probable. Fibrine, albumen and caseine, whether found in animal or vegetable compounds, are the same in composition, and they are amply abundant in the food of all classes of animals to supply the materials for the growth, nutrition, and reproduction of their parts. And if sufficient, what need for looking further for elements of nutrition—for supposing that the carbon and hydrogen of sugar, gum, starch and the oils, have any agency in the formation of blood? Still, it is possible that the other opinion may be true, that both sugar and fat are occasionally converted into nitrogenized animal substances. It has not been made out that nitrogen is never absorbed by the lungs, and admitting that it is, at times, imbibed with oxygen, its use may be to assimilate these matters to the living animal tissues. There is nothing impossible in the supposition, and although we do not deem it a probable one, we cannot doubt the power of the vital processes to effect such a change, any more than that, by the separation of a part of their nitrogen, they may convert the gelatinous tissues into proteine compounds. The arguments in favor of it will be found stated, with great clearness and force, by Per

eira under the head of nitrogen. He insists, with much plausibility, that sugar takes some other part in digestion than merely to supply the blood with one of the elements of respiration. But we cannot pursue this subject further.

Phosphorus, a substance never seen except in the laboratory and shops, is yet an invariable constituent of many animal and vegetable substances, and an essential ingredient of brine and albumen, and of all the tissues into which they enter. It is contained in the nervous matter, in the brain, and in the bones, as well as in the spermatic fluid and the ovaria. It is a constituent of the flesh, the blood and the bones of animals which form our food. In the bones it exists as phosphoric acid, but in the soft parts the precise form it affects is not known. Fishes are especially rich in this matter, and it is also a much larger constituent of vegetable substances than was suspected before chemists had furnished us with the analysis of organic bodies. Unrefined sugar, garlic, potatoes, and the seeds of all the grasses, contain it, so that the herbivora derive it from this source in quantities greater than their systems require, and the excess occasionally gives rise to concretions in the cœcum of the horse as large as the head of a child. Pereira mentions one of these *hippolithi* in his possession consisting of the ammoniacal phosphate of magnesia, which weighs between five and six pounds.

Phosphoric acid is described by chemists as possessing a singular pliancy of constitution, which seems to have adapted it, above all other mineral acids, to the wants of the animal economy. One of the salts of this acid, the metaphosphate of soda, by the agency of heat alone, exhibits a change of *nature*, without a change of *composition*, similar to what often occurs in organic compounds. This salt combines with water, which becomes attached to it as water of crystallization, and the salt is then a hydrate. Dried at 212°, it retains water, but not as a base, for on dissolving the salt again its constitution is found to be unaltered—it is still a metaphosphate. "But let this metaphosphate be heated to 300°, and *without losing anything, it changes completely*, and becomes a pyrophosphate, the

water which was constitutional before, being now basic." This peculiarity of phosphoric acid fits it to make "one of the links by which mineral and organic compounds are connected."*

Sulphur is very widely disseminated among animal and vegetable bodies. In fibrine, albumen and caseine, as well as in the hair and bones, it is always present, and in some of these, probably, uncombined with oxygen. The vegetable kingdom is not deficient in this element. Celery, rice, hops, ginger, all the cruciferous tribe of plants, contain it. It is found in asafœtida, which is sometimes used as a condiment, and by some oriental tribes is considered as "*food for the gods.*"

The sulphuretted hydrogen, found in the alimentary canal, is supposed by our author to be often produced by the action of decomposing organic matters on the sulphates. "An eminent chemical philosopher tells me," he remarks, "that he is always much troubled with the evolution of this gas after the use of sulphate of magnesia." Every physician will be able to recall to his memory instances of this kind—cases in which towards a fatal termination, especially, sulphuric acid and the sulphates were decomposed, with the extrication of much sulphuretted hydrogen.

Iron has been long recognized as one of the constituents of organic beings, but it is a little remarkable that chemists are not yet agreed as to the precise state in which it exists in their tissues. Dr. Pereira observes,

"This metal is an essential constituent of the blood corpuscles, though, according to the recent researches of Scherer, it is neither essential to hæmatosin, nor necessary to the color of the blood. But the well-known beneficial influence of chalybeates in the disease called anæmia, in which the blood is found to contain a smaller quantity of iron than in a state of health, favors the notion that the proper color of this fluid is in some way connected with the amount of iron contained in it; for one of the most characteristic symptoms of this malady is an absence of the natural vermilion tint of the complexion."

* Graham's Elements of Chemistry, p. 256.

The American editor, Dr. Lee, adds an interesting note on this subject. He says:

"The physiological effects of a want of the usual proportion of iron in the blood globules, yet remain to be investigated. If Liebig's hypothesis be correct, then such a deficiency must cause the globules to lose their property of absorbing oxygen and of afterwards giving up this oxygen and carrying off the resulting carbonic acid, which would doubtless lead to important changes in the temperature and other vital phenomena of the body. The vital motions would go on, but the change of matter would be arrested; no lifeless compounds could consequently be separated, such as bile or urine, and the animal temperature would necessarily sink. The phenomena connected with aggravated cases of anæmia, in leucophlegmatic subjects, lend much plausibility to such doctrine."

Chlorine is found in the blood, and in several of the secretions. In the blood and the excretions it is combined with sodium, in the gastric juice it is united to hydrogen, and constitutes the old muriatic acid. It is constantly abstracted from the blood, in the production of the various fluids containing it, and must be continually restored to it again. This is done with the food, in the form of chloride of sodium. The embryo chick finds it in the egg, and the young mammal derives it from its mother's milk. Hydrochloric acid appears to be a necessary agent in the process of digestion, and, in fact, an artificial digestive liquor may be prepared by macerating the lining membrane of the fourth stomach of the calf in water, to which a few drops of this acid have been added. Beefsteak and albumen are gradually dissolved in this mixture, while they are not affected by either the acid or the infusion of the stomach alone. Liebig ascribes the action of the gastric fluid to the circumstance, that it is matter in a state of transformation, which state is communicated to the alimentary substances. A few drops of sour milk left in a pan will cause the fresh milk to ferment in a few hours. Here the milk, undergoing change, communicates the same tendency to the fresh body of the fluid—As yeast, which is matter undergoing transformation, imparts a fermentative tendency to the mass of flour in which it is mingled.

Dr. Pereira adduces several circumstances which are opposed to this theory of digestion. They are given in the following extract:

"The fact ascertained by Schwann, that the solvent principle of the digestive fluid can be precipitated from its neutral solution by acetate of lead, and be obtained again in an active state from the precipitate by means of sulphuretted hydrogen, is apparently inconsistent with Liebig's idea, that this principle is matter in a state of decomposition or transformation. Moreover, if the essential part of the gastric juice—that by which digestion is effected—be a mere transformation of the stomach, how is it that other parts of analogous structure and composition do not suffer the same transformation? I have tried to obtain a digestive liquor from the second stomach of the calf, and from the bladder, but in vain. How is it that this fancied transformation goes on, during life, only when solicited to do so by the presence of aliment or by mechanical irritation? Dr. Beaumont ascertained that pure gastric juice will keep for many months without becoming fetid: a fact scarcely explicable on the hypothesis that its activity depends on a principle in a state of decomposition. I find that while acidulated infusions of the second stomach of the calf, and of the bladder, soon become putrid and fetid, that of the fourth stomach remains remarkably free from unpleasant smell for several weeks. Lastly, I find, contrary to Liebig's statement, that a digestive liquor can be prepared from the fresh undried fourth stomach of a calf.

"I cannot agree with Liebig, that digestion is a process analogous to fermentation; that, in fact, it is nothing more than the transformation of food, effected by the contact of matter in a state of decomposition. If it were, a small quantity of gastric juice ought to be capable of effecting the digestion of an unlimited quantity of food. Now, the experiments of Dr. Beaumont on the natural gastric juice, and of Schwann on the artificial digestive liquor, prove that this is not the case. Both found that only a certain amount of food could be digested with a given quantity of gastric juice; and Dr. Beaumont observes, that "when the juice becomes saturated, it refuses to dissolve more; and if an excess of food have been taken, the residue remains in the stomach, or passes into the bowels in a crude state." Now, this fact is quite inconsistent with the fermentation theory."

We pass over the other chemical elements, calcium, magnesium, potassium, and fluorine, as, with the exception of the first, they are comparatively of less interest as constituents of our food.

Chapter II treats of *alimentary* principles, which Pereira divides into the following twelve classes; namely, *aqueous*, *mucilaginous*, *saccharine*, *amylaceous*, *ligneous*, *pectinaceous*, *acidulous*, *alcoholic*, *oily*, *proteinaceous*, *gelatinous*, and *saline*.

Water makes a large proportion of the human body. The blood contains about 80 per cent., and the flesh about 74 per cent. of it; so that we may assume, with our author, that of the entire human machine nearly three-fourths of its weight are water. Wasted as it is by the various vital processes, a continual supply of this fluid is indispensable to the life of animals, which have been known to subsist for many weeks without solid food, but cannot live many days without water. "In this point of view, it holds an intermediate rank between air and solid food, being less essential than the first, but more so than the last."

Water enters largely into the composition of most of our alimentary substances, in some forming true hydrates, and in others being present merely as accidental moisture. To the constitution of the first it is essential, and its removal by heat or chemical agency changes their nature. Sugar, starch, or albumen is decomposed when deprived of the water which is one of its elements; and, on the other hand, cane sugar or starch, may be converted into sugar of milk, or diabetic sugar by the addition of water. "So also the hydrochloric acid of the gastric juice and the soda of the blood and bile, are derived from common salt by the aid of water." Other cases, where a change of chemical constitution is effected by the instrumentality of water, are cited by Pereira.

In a dietetical point of view water may be regarded as to *quantity* and *quality*. As a remedy in fevers and acute inflammatory diseases, an almost unlimited use of aqueous fluids

is admitted; but in other maladies we restrict the quantity, as in valvular diseases of the heart, when our object is to keep down the volume of the circulating fluid, or to prevent thinness of the blood, as in aneurism of any of the great vessels, in which our only hope is in the coagulation of fibrine within the sac, or when we seek to repress excessive secretion, as of urine in diabetes. Attention to the *quality* as well as the quantity of the water is also important, both in the cure and the prevention of disease. The purest is rain-water; that of wells and springs contains mineral ingredients derived from the strata through which it percolates. River water is a mixture of rain and spring water. It is deemed more wholesome than the water of springs. The health of Nashville, especially of the infant part of the population, is believed to have been improved by the introduction of river water into the city. Children are said to suffer less with bowel complaints than in former years. In the navy of Great Britain it has been ascertained that dysentery has become less prevalent, since care is exercised by the medical officers to have the men supplied with pure water.

The second alimentary principle of our author is *gum*, which exists almost universally in plants, "and appears," he remarks, "to hold the same position in the vegetable economy, that albumen does in the animal." Liebig denies that it possesses nutritive properties, and alleges that its only use as an article of diet, is to furnish fuel for the oxygen consumed in respiration. Prout holds that it is not converted into sugar in the digestive process, and in view of this property, Pereira suggests that it might be advantageously substituted for sugar and amylaceous substances in diabetes. It is found an indigestible article of diet by dyspeptics.

The saccharine principle is a very widely distributed and very important one. "Sugar," says Graham, "seems to be the agent, by means of which plants as well as animals develope the heat they require. The fecundation of plants is always accompanied by heat, the flowers respiring and producing carbonic acid. They must therefore consume carbon,

and accordingly we find that the sugar in the stems of the sugar-cane has entirely disappeared after the flowering and fructification are completed."* The same remark is applicable to the indian corn, the stalk of which is found destitute of sugar after the maturing of the grain. The essential purpose of sugar, according to Liebig, is the development of vital heat, and hence it is an ingredient of the food of all young animals which derive nourishment from the mother, as it is also in that of the embryo plant before its rootlets have permeated the soil. If this principle be supplied to an animal in excess, that portion which is not consumed in respiration is deposited in its system in the shape of fat. It is not, according to his view, one of the blood-making compounds.

Pereira esteems sugar a healthy article of diet, and supposes that the erroneous notion of its being injurious to the teeth, "has been propagated by frugal housewives in order to deter children from indulging in an expensive luxury." He cites the case of Henry, Duke of Beaufort, who died of fever at the advanced age of 70, having eaten nearly a pound of sugar daily for 40 years. "He was never troubled with cough, his teeth were firm, and all his viscera were found, after death, quite sound." Some of the circumstances which forbid the use of sugar as a diet, are indicated in the following passage:

"In diabetes, the power of assimilating saccharine matter is in a great measure, if not wholly, lost; and hence, therefore, the dietetical employment of sugar and sweet foods, in this malady, is highly improper. In the oxalate of lime diathesis, likewise, these foods are objectionable. "I have seen repeated cases," says Dr. Prout, "in which the too free use, or rather abuse, of sugar, has given occasion to the oxalic acid form of dyspepsia; and sooner or later, under favorable circumstances, to the formation of an oxalate of lime calculus." In the phosphatic diathesis, the copious use of unrefined sugar is objectionable, on account of the lime contained in it."

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* Op. cit. p. 689.

Starch, the *amylaceous* principle of our author, is generally distributed in the vegetable kingdom, existing in endogenous and exogenous plants, and being found in roots, stems, tubercles, fruits and seeds. Iceland moss contains 44 parts in the hundred of this principle; tapioca from 7 to 13, potatoes from 9 to 24, arrow-root from 12 to 26, wheat flour 56 to 74, maize nearly 81, and rice more than 85 per cent. To render amylaceous matter digestible in the human stomach it must be cooked, as the heat of that organ, according to Raspail, is not sufficient to burst the grains of the feculent mass. In graminivorous animals and birds the power of the digestive apparatus is greater, but many experiments show that a great advantage results from boiling the farinaceous substances given them for food. By digestion starch is converted into gum and sugar, the latter being probably absorbed, and entering the circulation, according to Liebig, to form an element of respiration. Prout, on the contrary, regards starch as a mild, slightly nutritious, easily digestible article of food, of which man and the higher animals can partake in much larger quantities than sugar, and for an unlimited period. Animals grow fat upon it, but Liebig alleges that it neither developes their organs, nor increases their strength. In the form of sago, arrow-root, tapioca, Iceland moss, or water-gruel, it constitutes an unstimulating diet for persons affcted with morbid sensibility of the primæ viæ, as well as for the subjects of fever and inflammatory diseases.

Our author questions the claim of the *ligneous* principle to a place among nutritious articles. It rests on the statement of Autenrieth, that wood reduced to powder, repeatedly subjected to the heat of an oven, and then ground in the manner of corn, yields a flour which may be made into a perfectly uniform bread. But Pereira supposes that the nutriment found in such bread comes from the starch, which, in the autumn, after the formation of wood has ceased, is diffused through every part of the plant by the autumnal sap. Heyer, by means of a microscope, detected starch thus deposited in the bodies of trees.

Jelly is the *pectinaceous* alimentary principle of Pereira, and abounds in fruits. He says:

"According to Fremy, unripe fruits contain a very small portion only of pectine; but when the fruit becomes ripe, pectine is formed by the action of the vegetable acids of the fruit on a pulpy matter. These acids are contained in cells, from which they do not escape until the period of ripening, when the cells are transparent, distended, and permeable. By subjecting fruit to heat the cells burst and allow the acid to escape, and in this way the formation of pectine is promoted."

Pereira believes "vegetable jelly to be slightly nutritive, and readily digestible." Containing no nitrogen, Liebig places it with sugar and starch, among the elements of respiration.

The acidulous elementary principle is widely distributed among vegetables, and as an article of diet has been used in all periods, and among all nations, except those inhabiting the coldest latitudes. To such it would not appear to be a necessary article of food. They enjoy good health upon an unmixed animal diet; but in warm countries it is undoubtedly necessary to the preservation of health. Its efficacy in preventing scurvy is well known, and in fevers, water sharpened with the vegetable acids makes a beverage which is at the same time grateful and medicinal. But the use of these acids, especially that of vinegar, may be carried too far. Our author cites the following case as showing that the practice, not uncommon among young ladies, of employing it to diminish obesity, is attended with danger:

"A few years ago, a young lady, in easy circumstances, enjoyed good health; she was very plump, had a good appetite, and a complexion blooming with roses and lilies. She began to look upon her plumpness with suspicion; for her mother was very fat, and she was afraid of becoming like her. Accordingly, she consulted a woman, who advised her to drink a small glass of vinegar daily; the young lady followed her advice, and her plumpness diminished. She was delighted with the success of the remedy, and continued it for more than a month. She began to have a cough; but it was dry at its commencement, and was considered as a slight cold, which

would go off. Meantime, from dry it became moist; a slow fever came on, and a difficulty of breathing; her body became lean, and wasted away; night-sweats, swelling of the feet and of the legs succeeded, and a diarrhœa terminated her life. On examination, all the lobes of the lungs were found filled with tubercles, and somewhat resembling a bunch of grapes."

Alcohol is scarcely entitled to a place among alimentary principles. Of all truly nutritious qualities it is admitted to be destitute, and even as an element of respiration its pretensions are questionable. Its influence in promoting animal heat may well be doubted, since it is proved by experience that, other things being equal, men indulging in alcoholic drinks perish sooner from cold, than those who entirely abstain from them. On no ground can the habitual use of such drinks by healthy people be justified, and the profession is called upon by every solemn obligation, to discountenance a practice fraught with the worst consequences to individuals and society.

The *oily* alimentary principle is derived from both the organic kingdoms. It is found in the shape of fixed and volatile oils. Bile, according to Beaumont, accelerates the chymification of oils, and hence small quantities of that fluid are found "mixed with the gastric juices where the use of fat or oily food has been persevered in for some time." In many dyspeptics fat does not become properly chymified, but floats on the contents of the stomach, becoming highly rancid, and exciting heartburn, eructations, nausea, and sometimes vomiting. Butter is less apt to disagree with such patients than any other of the fixed oils, but in many persons of bad digestion we have found broiled bacon to agree better with the stomach than any other article of food, and Dr. Lee makes the same remark concerning children laboring under a chronic form of cholera infantum. This principle is not nutritious, according to the views of Liebig, and the following facts are stated by our author on that subject:

"In the report made to the French Academy of Sciences, in the name of the Gelatine Commission, it is stated that animals fed on fatty substances (fresh butter, lard, and the fat which

surrounds the bullock's heart) refuse, after some time, to take this food, and ultimately die of inanition. During life, they exhaled a strong fatty odor, and, though dying of inanition, were in a remarkable state of *embonpoint*. On a post-mortem examination, all the tissues and organs were found infiltrated with fat, and the liver was in the state called by anatomists *fatty*."

Fibrine, albumen, and caseine contain, as their basis, a substance to which Mulder has affixed the term *proteine;* these constitute a group of alimentary principles termed by Pereira the *proteinaceous*. They are "the plastic elements of nutrition," according to Liebig, and are derived by animals from vegetable matters, in which alone they are produced. But it is remarkable that, while they are the true nutritious elements, not one of them singly is capable of supporting animal life. Magendie fed dogs on fibrine until they died of inanition, and on post-mortem examination it was found, that the blood had almost entirely disappeared, all that was left affording only a few grains of fibrine. We have referred, on other occasions, to the experiments of Tiedemann and Gmelin on geese, in which albumen was fed to these animals with similar results. Still, as Liebig holds, albumen must be regarded as "the true starting point of all the animal tissues." Out of the white and yolk of the egg, the blood of the young bird, the muscles, feathers, nerves, and blood vessels are fabricated, aided only by atmospherical oxygen, and the oil and iron mingled with the albumen.

The vegetable proteinaceous principles are identical, according to the analysis of Mulder and Scherer with the fibrine, albumen, and caseine derived from animals. By the animal processes, they are impressed with the peculiar shape and characteristics which they assume as blood, muscular fibre, and the various tissues of the animal body.

"'How beautifully and admirably simple,' says Liebig, 'appears the process of nutrition in animals, the formation of their organs in which vitality chiefly resides! Those vegetable principles which, in animals, are used to form blood, contain the chief constituents of blood, fibrine, and albumen,

ready formed, as far as regards their composition. All plants, besides, contain a certain quantity of iron, which reappears in the coloring matter of the blood. Vegetable fibrine and animal fibrine, vegetable albumen and animal albumen, hardly differ, even in form; if these principles be wanting in the food, the nutrition of the animal is arrested; and when they are present, the graminivorous animal obtains in its food the very same principles on the presence of which the nutrition of the carnivora entirely depends. Vegetables produce in their organism the blood of all animals, for the carnivora, in consuming the blood and flesh of the graminivora, consume, strictly speaking, only the vegetable principles which have served for the nutrition of the latter. Vegetable fibrine and albumen take the same form in the stomach of the graminivorous animal as animal fibrine and albumen do in that of the carnivorous animal.'"

The foregoing is quoted without comment by Pereira. Dumas has recently expressed himself in language very similar to that of Liebig. Differing as these eminent chemists do on several points of chemico-physiology, the concurrence of their views in regard to animal digestion heightens the probability of their theory. Dumas thus speaks of that process:

"Digestion is a simple function of absorption. The soluble matters pass into the blood, for the most part unaltered; the insoluble matters arrive in the chyle sufficiently divided to be aspired by the orifices of the chyliferous vessels. Digestion has evidently for an object to restore to the blood, a matter proper to furnish for our respiration the ten or fifteen grammes of carbon or the equivalent of hydrogen, which every individual burns per hour, and also to provide the gramme of nitrogen, which is exhaled every hour, in part by the lungs and skin, as well as by the urine. Thus, amylaceous matters are converted into gum and sugar; the saccharine matters formed are absorbed. The fat matters are divided, form an emulsion, and so pass into the vessels, to form afterwards deposits, which the blood takes up and burns, when they are required. The neutral azotised matters, the fibrine, albumen, and caseine, first dissolved, then precipitated, pass into the chyle highly divided or dissolved anew.

"An animal, therefore, receives and assimilates almost untouched, the neutral azotised matters which he finds ready formed in the animals or plants upon which he lives; he re-

ceives oily substances which come from the same sources, and also amylaceous and saccharine substances of the same origin. These three orders of matters, of which the origin is always traceable to the plant, divide themselves into products admitting of assimilation; into fibrine, albumen, caseine, and oily bodies, which serve to increase or renew the organs; and into combustible products, sugar and the oily bodies, which are consumed in respiration. An animal thus assimilates or destroys ready formed organic matters; it creates nothing."

We here close, for the present, our notice of this interesting work. The part which treats of compound aliments, amounting to more than half of the volume, will probably form the subject of a future article. If, in the estimation of some of our readers, we have dwelt with tedious minuteness upon certain chemical questions, our apology is, that they are topics which are exciting unusual attention in the medical world, at the present day, and are every where the subjects of animated discussion. Our next article, however, will be occupied with matters more practical in their nature. Y.

ART VI.—*Principles of Medicine: comprising general Pathology and Therapeutics, and a brief general view of Etiology, Nosology, Semeiology, Diagnosis, and Prognosis.* By CHAS. J. B. WILLIAMS, M.D., F.R.S., Fellow of the Royal College of Physicians; Professor of the Principles and Practice of Medicine, and of Clinical Medicine, and First Physician to the Hospital, University College, London; Consulting Physician to the Hospital for Consumption and Diseases of the Chest, &c. *With Additions and Notes:* By MEREDITH CLYMER, M.D., Lecturer on the Institutes of Medicine; Physician to the Philadelphia Hospital; Fellow of the College of Physicians, &c. &c. Philadelphia: Lea & Blanchard. 1844. 8vo. pp. 383.

This work supplies a deficiency long felt by the profession —the want of an elementary treatise on General Pathology. The author of it has had extensive experience at the bed-side, and has drawn chiefly from his own observation of disease as he has witnessed it in hospitals and private practice, during

upwards of twenty years. The want of this union of science and practice in the same individual, he regards as the cause of the admitted fact, that practical medicine has not kept pace with the rapid improvements in the contributory sciences. He adds, we fear, with too much truth, "that scientific men are not and cannot be practical, because they have had no experience; and practitioners know little of science, and therefore derive little good from it. Instead of working together, these parties are at issue with each other. But it is high time," he continues, "to put an end to this feud. Philosophers must descend from their transcendental positions, to consider the details of practice and purposes of utility."

Without further preface, we proceed at once to notice a work which proposes thus to combine practice and science, and as our notice is designed to be analytical we shall not stop to remark on the introductory chapter, which insists with great force on "the need of principles in medicine."

Chapter I is devoted to the causes of disease, and the first observation is, that—

> "Disease sometimes originates within the body from a change in some of the component parts of the animal frame, without any obvious external influence; thus disorder may arise from an undue proportion or predominance of a function, as that of the nervous system; or of a constituent of the body, as in the case of sanguineous plethora. Such states, however, constitute more commonly proclivity to disease than disease itself; and generally disease arises from causes extraneous to the body, although in many instances we may fail to detect these causes."

He adopts the division of the causes of disease, long sanctioned by the profession, into predisposing and exciting, the most numerous of the former of which he remarks are debilitating causes. Thus low fevers, and epidemic and contagious disorders, are rapidly propagated among an ill-fed population. Happily, we have yet but little experience of this in our highly-favored country. But of the truth of the proposition no one can entertain a doubt. The other predisposing causes are as follows: Confinement in impure air, excessive exer-

tion of mind or body without sufficient sleep, long continued heat, long continued cold, habitual intemperance with intoxicating liquors, distressing passions of the mind, excessive and repeated evacuations, either of the blood or of some secretion from it, previous debilitating diseases, and the treatment used to relieve them. Hereditary conformation, and age, are also referred to as predisposing causes.

The exciting causes are next enumerated. He divides them into two classes; to-wit, cognizable agents, and such as are not cognizable. The first class embraces mechanical and chemical agents, ingesta, bodily exertion, mental emotion, suppressed or defective evacuations, excessive evacuations, temperature and changes. In the second class are cited endemic, epidemic and infectious poisons. We deem it sufficient to announce the subjects. The reader will supply the matter under each head from his previous study or observation.

Chapter II treats of *pathology proper*, and in the several sections are discussed diseased irritability, excess of tonicity, diseases of sensibility, diseases of voluntary motion, diseases of sympathetic nervous influence, and diseases of secretion. Under the head of sympathetic nervous influence, he refers to the following pathological phenomena:

"Clinical observation teaches us that not merely motory impressions, but those also which cause sensations, may be reflected, so that when the impression is made on one part, the sensation is experienced in another. I do not allude to the fact that a stroke on the nervous trunk produces feelings referred to its branches, but I advert to impressions on the ultimate distribution of one nerve producing sensations in parts supplied by another nerve, or by another branch of the same nerve. The following are examples of this kind. Touching the external auditory meatus causes a tickling sensation in the glottis. A calculus in the bladder produces pain referred to the extremity of the penis. Ascarides in the rectum cause itching of the anus, and sometimes of the pudenda. Congestion of the liver sometimes is accompanied by pain in the right shoulder-blade; and a disordered state of the stomach, occasionally with pain in the left shoulder-blade. The pains of angina and gastrodynia often extend to the whole chest, and

the former especially radiates to the left arm. Severe frontal headache is almost instantly caused in some persons by acid ingesta, in others by eating ice. Irritation of the intestines, as in cholera and colic, (especially painter's colic), frequently causes pain and tenderness in the legs and feet, even when there has been no cramp or other excitomotory phenomena. Temporary neuralgic affections seem to be due to similar causes."

Diseases of the constituents of the blood are described under the head of diseased secretion. We quote extensively from this part of Dr. Williams' work, as many of the details are new and curious. The constituents of the blood, to be considered as in excess, defect, and alteration, are the red globules, the fibrine, albumen, oil, salts, and water. The average natural proportions of the chief constituents of the blood, according to the best analyses, are 127 red globules, 3 fibrine, 72 animal matter in the serum, 8 salts, and 790 water.

Changes in the Red Particles.—"Excess of the red particles might therefore be expected to cause a general excitement of the vital properties of the body. Accordingly, Lecanu found that they exist in larger proportion in persons of sanguine temperament than in others, and more in males than in females. Andral and Gavarret detected an excess in the early stage of inflammation and fevers, especially eruptive fevers, as measles and scarlatina. In sanguineous plethora, also, and in hæmorrhagic diseases before much blood is lost, they were in excess, in some instances rising to 185 in 1000 of blood. The obvious sign of the abundance of red particles is the florid color apparent in the lips, cheeks, gums, and other vascular parts; the deep-blue color of the superficial veins; and the fine deep crimson which a thin film of blood gives on a white plate. The functions, animal heat, and muscular irritability are in an elevated state, bordering on or passing into febrile excitement."

"The *red particles are defective* in persons of the lymphatic or leucophlegmatic temperament; after great losses of blood, (artificial or from disease); in chlorosis, and in other anæmic states, as those connected with advanced stages of cancer, diabetes, scurvy, and other cachectic diseases; in scrofulous and tuberculous diseases; in the latter periods of fevers, and after severe inflammations; in granular degeneration of the kidney, and other organic diseases attended with dropsy; in diseases

of the spleen, and others of malarious origin. In extreme cases of chlorosis, the proportion of the red particles was found, by Andral, reduced to 28 in 1000 of blood.

"The signs of the defect are, paleness of parts naturally colored with blood, pallid or sallow hue of the skin, pink color of superficial veins, and a pinkish or light purplish hue of a film of blood on a white plate. The symptoms of such a condition are those which will be more fully described under the head of anæmia; a weak state of the functions generally, of circulation, calorification, digestion, and nutrition, constituting their summary."

"The *red particles* are evidently *altered* in some diseases, the coloring matter being much darker than usual, as in the worst forms of scurvy, in which the blood is said, by Mead, to be changed to a dark brown or green color: in the Walcheren and other malignant fevers it has been described as pitchy black. Some change seems to occur in congestive typhoid fevers, in which the blood-vessels become stained or dyed of a deep claret color; this imbibition implies an unnatural solution of the red particles. Probably the occurrence of petechiæ and ecchymosed patches in these diseases is partly dependent on a similar change. The readiness with which the textures become stained in scorbutic subjects, and in secondary syphilis, seems to indicate an alteration in the coloring matter; all inflammations and ecchymoses in the skin being followed by livid, purple, or copper-colored stains. The black matter of melanosis seems to be the coloring part of the blood in an altered state: this is certainly true of the spurious melanosis of the intestines."

"*Remedial Agents.*—Excess of the red particles may be speedily removed by blood-letting, which reduces these much more than the other constituents of the blood. Low or vegetable diet, and the antiphlogistic regimen generally, produce a similar effect more tardily. It is not certain whether any medicines directly act in a similar way; but probably the continued use of mercury, colchicum, and other medicines which largely increase the excretions, ultimately reduce this element. The remarkable pallidity which accompanies the occurrence of extensive suppuration would also point to the formation of pus as a means of diminishing the red particles, which means may be used artifically in the form of setons and suppurating counter-irritants.

"To *promote the increase* of the red particles, *where defective*, we might expect nourishing food, especially meat, exposure

to invigorating air and light, with tonics generally, to be the proper means. But without experience we could not have anticipated that medicines containing iron should possess such remarkable efficacy in relation to this element of disease. In many cases of chlorosis, under the use of any suitable preparation of iron, the complexion will change from waxy to ruddy, in three or four weeks' time. This subject will again come under our consideration in connection with anæmia."

Fibrine.—"An *excess of fibrine*, and of the colorless or lymph-globules, exists in inflammatory diseases, especially those of a sthenic character, and acute rheumatism. In some cases, MM. Andral and Gavarret found it as high as ten per thousand. The proportion of fibrine is also increased during the latter months of pregnancy. These facts have been long known; but in addition to these MM. Andral and Gavarret found an excess of fibrine in tuberculous diseases, in which we have noticed there is a defect of red particles. Mr. Gulliver has observed the increase of white globules in blood drawn in inflammation; and I have noticed this as occurring in the vessels."

"*Deficiency of fibrine* is of frequent occurrence in many diseases and temporary conditions bordering on disease. Its sign is fluidity or imperfect coagulation of the blood when drawn. As venous blood contains less fibrine than arterial, so the quantity is absolutely diminished when the blood is more venous than usual, as in cases of asphyxia or impeded breathing; and in those of cyanosis, in which the venous blood becomes mixed with the arterial through an unnatural opening. Excessive bodily fatigue and want of sleep expend the fibrine: hence the blood remains fluid in animals hunted to death. It was stated by John Hunter that the same thing is observed in animals killed by lightning; but this is not always the case. In many instances the blood is found fluid in cases of death from poisoning and other sudden causes. In some of these the absence of fibrine may be attributed to the impeded respiration which is the immediate cause of death, as in some cases of death from hydrocyanic acid, opium, strychnia, apoplexy, dividing the pneumo-gastric, (Dupuy), &c. There is, however, some uncertainty about these facts. (See Mr. Blake's experiments mentioned further on). But in others, as in poisoning with arsenic, sulphuretted hydrogen, and some other pernicious agents, the fluid state of the blood must be ascribed to a more direct operation on the blood itself. So likewise in adynamic fevers, which arise from a peculiar poison, the fluidity

or imperfect coagulation of the blood is one of the most remarkable conditions, and seems to be a chief cause of the hæmorrhages, petechiæ, and vibices, which sometimes occur in these fevers. In a case of very low typhoid fever, Andral found the proportion below one in one thousand. The artificial imitations of these fevers produced in dogs inoculated with various morbid or putrid matters, or confined over their exhalations, in the experiments of Gaspard, Majendie, Gendrin, Leuret, and Hamon, exhibited a similar absence of fibrine in the blood."

"*Alterations in the quality of the fibrine* introduce to our notice the important morbid appearances presented by the buffy coat and contraction of the clot of blood.

"As the consolidation of the fibrine is the cause of the coagulation of the blood, so differences in the coagulum represent variations in the properties of the fibrine.

"A large firm coagulum indicates an abundance of fibrine, as well as of red particles, and is commonly presented by healthy blood. A loose coagulum implies a deficiency of fibrine. A small firm clot betokens a proportion of fibrine exceeding that of the red particles; but the smallness of the clot points to another property of fibrine, which is of excess, during and after its consolidation. Again: in this case as in others, the upper part of the clot is commonly more contracted than the lower portion; it is also firmer and contains more fibrine, whilst the lower abounds more in red particles. Here there is evidently a tendency to a separation of the red particles from the fibrine. In other cases, again, the separation is to some extent complete, the red particles subsiding, whilst the fibrine rises to the surface and on coagulating forms at the top of the clot a layer of a light yellow or buff color, commonly known by the name of the *buffy coat.*"

"*Remedial Agents.—Excess* of fibrine is less directly reduced by blood-letting and low diet, than is excess of the red particles; yet these are the chief means of lowering the quantity of fibrine in the blood. It would probably be found that purgatives and other remedies which increase much the more solid secretions, diminish the fibrine. A similar property has been ascribed to mercury, to alkaline salts, to iodine, and to antimony. I know of no positive facts in support of this notion; but it is favored by some analogies, and seems well worthy of experimental investigation. The operation of salts and alkalies in this way was probably suggested by their property of dissolving fibrine out of the body.

"According to the views of Liebig, subsisting chiefly on saccharine, amylaceous, or gelatinous articles of food, must reduce the fibrine and albumen of the blood; and such food is found by experience to be the best in inflammatory diseases, in which excess of fibrine is a chief element. Is the reputed efficacy of the 'cure de raisains,' in tuberculous disease, connected with the absence of protein compounds in the food? Bodily exercise reduces the fibrine, and may be advantageously employed with this view in sthenic plethora; but is not admissible in inflammatory diseases. Neither can we suggest any practicable mode of lessening the fibrine by lowering the function of respiration, on which its supply seems to depend, unless narcotics, which impair many organic functions, have some action of this kind. The known utility of opium, aconite, &c., in rheumatism and low forms of inflammation, in which excess of fibrine is a constant element, makes this matter deserving of some research.

"*Deficiency of fibrine* is to be remedied by assisting those functions on which its supply depends, particularly those of digestion, respiration, and assimilation, and by avoiding its expenditure in too much exercise and other exhausting processes. If the digestive organs will bear them, meat, eggs, bread, and other articles of diet abounding in the protein compounds, should be taken. The digestive and assimilative functions may be assisted by stimulants, bitters, quinine, and the mineral acids, which from their power in stopping passive hæmorrhage, and in augmenting the muscular strength, seem to promote the formation of fibrine more directly than by their mere operation on the digestive organs. To improve the function of respiration, besides attempts to remove or diminish any disease from which it may suffer, the free access of pure cool air to the lungs should be secured. The injurious effect of exertion is exemplified in the relapses which it often induces in continued fever, in which defect of fibrine in the blood is a chief element. Fatigue of every kind, and wakefulness, should be carefully avoided, and sleep obtained by narcotics, if it do not come naturally. In case of any deficiency of fibrine from the presence of a febriferous or putrescent poison in the system, it is not to be expected that fibrinous food, rest, or any other means, can remove the deficiency, so long as the poison remains in active operation. This poison, by its septic or analogous influence, interferes with the vital process by which the fibrine is formed. But no sooner does the influence of the poison subside, as evidenced by improvement in the symptoms, than the quantity of fibrine

increases; and this sooner than could be explained by any increase of nourishment taken. (Andral and Gavarret)."

"*Excess of albumen* exists in most cases of inflammations and fevers, especially during their more active stages. Its increase is not, however, in proportion to that of fibrine. Its relative proportion is much increased in epidemic cholera; but this is rather due to the removal of the water of the blood. Albumen is the principle least affected in its proportions by disease. Very poor living, long continued, extensive hæmorrhages, and other drains on the system, will pretty surely reduce it in common with the other animal principles of the blood; but good living has less power in raising it above the natural standard.

"*Deficiency of albumen* in the blood is most remarkably met with in cases of albuminuria, or diseases of the kidney with coagulable urine; and this deficiency precedes the diminution of the red particles, which takes place in the advanced stages of this disease. Dr. Bright found in a patient with albuminuria, the specific gravity of the serum as low as 1013. Dr. Babington found the specific gravity of the serum in a case of diabetes as low as 1024; in another 1027, although that of the blood was higher than usual, 1061. In this case the serum was milky. In their latter researches, MM. Andral, Gavarret, and Delafond discovered a remarkable diminution of the albumen in dropsical sheep affected with the rot, (a water state of the blood, with distoma in the liver). Sheep in a cachectic state, with a deficiency of red particles, but without entozoa, were not dropsical, and in these the albumen was found undiminished. It is therefore most probable that the cases of cachexia, or anæmia, attended by dropsy, owe this concomitant to a defect of albumen in the blood. It is this principle chiefly that gives the blood liquor its spissitude, which renders it more fit to pass along the vessels, and prevents it from transuding through their walls. This deficiency of albumen, therefore, seems to be a chief constituent of the diathesis."

The increase of fat in the textures is preceded, Dr. Williams supposes, by its presence in excess in the blood, and is favored by a diet composed of oleaginous, saccharine and farinaceous substances. Exercise counteracts the tendency to it, "probably by causing the combustion of the fat in respiration, whilst muscular textures are increased by the same influence."

The salts of the blood are diminished in many diseases, but it is not known that they are augmented by any. Their deficiency has been particularly remarked in malignant cholera, to which circumstance the temporary efficacy of injection of saline solutions into the veins of the cholera patients may be fairly attributed. Some pathologists have stated that a similar change in the blood occurs in typhus and yellow fever, but this assertion seems not to have been supported by the researches of Andral.

The proportion of water in the blood increases with the diminution of the animal constituents. It is thus found in excess after extensive hemorrhages, and in chlorosis, and other states of the system marked by anæmia. Andral cites the case of a woman in whom the blood, after repeated menorrhagias, contained, in red globules, only 21 parts; in fibrine 18; in solid matters of the serum 61; the water being 915 in 1000. The tendency is to dropsy, in such a condition of the circulating fluids. The opposite state of the blood exists in cholera, in which this fluid becomes so thick that it finally circulates with difficulty, as is evinced by the lividity, feeble pulse, and other signs of obstructed circulation.

Under the head of *changes in the blood by respiration*, we meet with the following instructive observations:

"In cases of cyanosis, (the blue disease, in which, from malformation of the heart, some venous blood passes into the arteries), we have the opportunity of observing the more essential effects of defective arterialization of the blood. Individuals thus affected are in a lower scale of animation. The slower processes of nutrition and secretion seem to go on pretty well, but the muscular power is low; slight exertions bring on symptoms of faintness, palpitation, suffocation, or insensibility; the animal heat is lower than natural, and there is greater suffering from the influence of cold. In short, all the powers of body and mind are slender, and are easily disordered by any circumstances which tax their activity. In the few that reach mature age, there is no sexual passion, which seems to be a happy provision against the chance of perpetuating a malformed race—human reptiles. The subjects of cyanosis are said to be very liable to hæmorrhages, and when these occur spontaneously, or from accidental causes, it is very difficult to stop them. This must be ascribed to a defect

of fibrine which we have already found to occur where the changes of the blood by respiration are imperfect. The same defect occurs in the fœtus.

"In connection with the scantiness of fibrine in the blood, when the respiratory changes are defective, we must notice the weakness of the muscles generally, which are probably nourished by the fibrine. This weakness is often observed in the subjects of extensive disease of the lungs, especially emphysema. In these same subjects the deposition of fat is, on the other hand, often excessive, which agrees very well with Liebig's idea that respiration directly consumes the oily parts of the blood; the respiration being defective, the fat accumulates."

Important changes in the blood are effected by the secretions, of which a very striking instance is afforded by defective action of the kidneys. These organs having been extirpated, the animals subjected to the operation died in a few days, affording after death evident traces of urea in the blood. Defective secretion of bile must be attended by many serious evils, but the effects have not been so accurately determined. Our author believes that some connexion exists between this state of the liver, and purpura, in several cases of which disease he noted a want of biliary secretion. The function of the skin when impaired is apt to be followed by rheumatism, urinary disorders, and cutaneous diseases. The reason assigned for this by Dr. W. will shock the opposers of the humoral pathology. He ascribes it all to the retention in the blood of the lactic acid and lactates of soda and ammonia, proceeding from the transformation or decay of the textures, along with the perspirable matter. "Hence," he says, "the remedies for rheumatism should not be merely antiphlogistic, but also of a kind calculated to eliminate the morbid matter from the blood."

In chapter III we have an account of "*Secondary or proximate elements of disease consisting of two or more primary elements.*" *Anæmia* is one of these—a condition, the peculiarity of which is a deficiency of blood. It is often symptomatic, but sometimes arises without any other known disease. Dr. Clymer says:

"The fundamental and constant character of anæmia is the diminution in the red corpuscles of the blood. Women are more subject to it than men, although these may be attacked with spontaneous anæmia at all ages. The clot is small, but firm and dense, swims in a large quantity of colorless serum, and presents on its surface a well-marked buffy coat, which, however, differs from the buff of inflammatory blood by a gradual termination in the red-mass, and not by an abrupt, well-defined line."

Hyperæmia, the blood in excess, is a most frequent element of disease. It embraces general plethora, congestion, and inflammation, with the results—hemorrhage, flux, dropsy, &c. It will be impossible, in the limits assigned us, to give an analysis of the interesting matter presented under each of these heads. We shall be compelled, therefore, to select a few of the most practical portions.

On the treatment of congestions, the following judicious remarks are made:

"The operation of several of the foregoing agents, in combination or succession, is generally more effectual than that of single ones in the cure of congestions. Thus congestion of the liver may resist the action of mercury, and may even be aggravated by it, until the vascular distention has been partially reduced by local blood-letting or derivants; then the mercury, by increasing the secretion, reduces the remaining congestion. Congestion of the kidneys is augmented rather than diminished by diuretics, which then fail to increase the secretion of urine, but may only render it more albuminous. But after some relief has been given by cupping to the loins, and hydragogue purgatives and diaphoretics, then some diuretics, particularly digitalis and cantharides, cause a freer flow of urine, with less albumen. The same point might be further exemplified; but it is unnecessary to multiply instances."

Hemorrhages constitute a most embarrassing class of diseases. Nothing beyond the outlines of treatment can be laid down in a work like this. They are thus given:

"We have now to consider the means calculated to restrain all kinds of hæmorrhage, and which is especially opposed to the causes which more immediately determine this result of disordered circulation. If blood-vessels are softened, brittle,

or actually ruptured or ulcerated, a chief thing to be done is to diminish the quantity of blood sent to them; and, besides by blood-letting, this may be effected by pressure, posture, cold and astringent applications, and means calculated to tranquilize the whole circulation. Thus epistaxis is sometimes arrested by pressure on the carotids; uterine hæmorrhage by pressure on the abdominal aorta, or by elevating the pelvis; hæmoptysis by keeping the chest high; and in all cases of hæmorrhage, perfect stillness and a cool regimen should be observed.

"The other pathological condition which favors hæmorrhage, the altered state of the blood, is perhaps more directly influenced by the remedies called styptics. Most of these remedies are astringents, causing contraction of the tonic fibres of vessels and other parts, but some of them also coagulate the blood, and in both these ways they may tend to restrain hæmorrhage."

Concerning the pathological causes of flux and dropsy, the following remarks occur:

"We have thus traced flux and dropsy in common, to elements previously considered, hyperæmia in some of its forms, together with a diseased condition of the blood itself, dependent on defective secretion, or defective nutrition or assimilation. The latter element, although not essential to the production of fluxes or local dropsies, is the chief cause of general dropsy, and constitutes the dropsical diathesis. If we endeavor further to distinguish between the pathological causes of flux and dropsy, we find from observation that flux more commonly results from determination of blood or congestion, with a lax state of the solids, whilst dropsy is rather associated with the altered condition of the blood just noticed."

The subject of inflammation occupies many pages of this work. The manner in which it is treated cannot fail to excite the admiration of the intelligent reader. We earnestly recommend this, as every other part of Dr. Williams' excellent Principles of Pathology, to the diligent perusal of every physician, who is not familiar with the accessions which have been made to medical science within the last few years. Y.

Selections from American and Foreign Journals.

On the Effects of Opium on the Infant Subject. By JOHN B. BECK, M.D., Professor of Materia Medica, &c., in the Col. Phys. and Surg., N. Y. The following practical observations are extracted from a paper in the January number of the New York Journal of Medicine. The subject is one of much concern to the profession and the public:

"With regard to the effects of opium on young subjects, there are two facts which seem to be well established. The *first* is, that it acts with much *greater energy* on the infant than it does on the adult; the *second* is, that it is more *uncertain* in its action on the infant than the adult. It is in consequence of these peculiarities attending its operation on the infant, that even the smallest quantities have not unfrequently produced the most unexpected and even fatal results. Of this, almost every physician must have seen some melancholy instances. Dr. John Clarke states, that 'half a drachm of genuine syrup of white poppy, and, in some instances, a few drops of Dalby's Carminative, have proved fatal, in the course of a few hours, to very young infants.' In one case, he says, forty drops of Dalby's Carminative destroyed an infant. Mr. Marley says, 'I have known three or four instances where the most dangerous symptoms were produced by Godfrey's Cordial and Dalby's Carminative; two nostrums which have no doubt added considerably to the mortality of infants.' In a case that fell under his observation, the most rapid and alarming symptoms followed the exhibition of an ordinary dose of syrup of poppies. In another case, he knew half a small teaspoonful of the syrup of poppies prove nearly fatal to a child eight or ten days old. Thirty-five drops of Dalby's Carminative, he has known to prove fatal to a young child, while, in

other cases, larger doses have been given without any unpleasant effects. The same writer relates the case of an infant, nearly poisoned, by considerably less than half an ordinary-sized tea-spoonful of paregoric. Dr. Bard says he once knew an infant of several months old killed by ten drops of laudanum, and another brought into very great danger by less than two drops. Dr. Montgomery states that he has known more than one instance in which a tea-spoonful of the syrup of poppies has proved fatal to a healthy child. Professor Hamilton relates two cases, in which four drops of laudanum proved fatal to children some months old. Dr. Merriman reports two cases, in which a dose of Godfrey's Cordial proved fatal. He also states that he once saw a child in the month thrown into a state of excessive stupor, by taking one dose only of a mixture in which there were four drops of laudanum; the actual quantity swallowed could scarcely have amounted to one drop. Dr. Christison states that 'the administration of three drops of laudanum in a chalk mixture for diarrhœa, to a stout child, fourteen months old, was followed by coma, convulsions, and death in six hours.' In another infant, a few weeks old, death resulted from taking four drops of laudanum. Dr. Ryan states that he has known one drop of the 'sedative liquor of opium' narcotize an infant. Of laudanum, two drops have been known to kill an infant, nay, in one case, a single drop destroyed a new-born infant. I have myself seen a young child narcotized by about twenty drops of paregoric. The foregoing facts are sufficient to show that opium acts with peculiar energy and uncertainty upon the infant subject. The causes of this would seem to be the following:

In the *first place*, the great difference in the physical organization of the *infant* and the *adult*. In the young subject the brain and nervous system are much more impressible, and the slightest causes, as we know, will sometimes derange them. Besides, in the infant, the circulation is more rapid—there is a greater proportionate quantity of blood circulating in the brain, and hence a much greater tendency to cerebral determinations. From these peculiarities in the organization of the infant, it happens that convulsions are so much more common in the early periods of life. Thus, for example, the irritation of teething—of worms or crude matters in the intestines, is frequently followed by convulsions. Intermittent fever, which in the adult commences with a chill, in the child is frequently ushered in by a convulsion. Scarlet fever, too, in the child, not unfrequently commences with a convulsion, while in the adult I have never witnessed such an occurrence. Now, with such

peculiar predispositions characterizing the system in infancy, it may readily be conceived how it is that such an article as opium should act with more power at that period than in after life.

"In the *second place*, the difference in the *temperament* or *constitution* of infants. In the adult, we know as a matter of fact, that opium differs greatly in its effects in different constitutions. Thus, as a general rule, the sanguine temperament does not appear to bear the use of this drug as well as the melancholic or the nervous. In the former, it is much more apt to produce cerebral disturbance, and in large doses is more likely to prove injurious. Now, infants differ from one another as much, if not more, than adults, in these peculiarities of constitution, and, as a matter of course, the difference in the effects of this article must be greater. Besides, as these peculiarities and differences can only be detected by actual expeperience, and as we cannot of necessity have the same benefit of experience in the case of infants, it is obvious that the difficulty of justly appreciating the action of this drug on the infant must be greatly increased. A greater or less degree of uncertainty, therefore, must necessarily from this cause attend its use in the early periods of life.

"In the *third place*, the actual state of the system as to disease. There is no circumstance which modifies the effect of opium in so great a degree as this. In the adult, we see this continually. In some conditions of the system, even small doses produce the most unpleasant effects, while in other conditions, immense quantities may be given with little or no effect; thus, for example, when severe pain or spasm are present, quantities of this article can be borne, which under other circumstances would prove exceedingly injurious. As illustrative of this, I quote an intesesting case related by Dr. Percival. He states that a young man was admittted into the Manchester Hospital, on account of a violent spasmodic disease which recurred periodically in the evening, and after trials of various remedies, doses of opium sufficiently large to mitigate the violence of the paroxysm were ordered, and he took twenty-two grains every night during a week, without producing any soporific effect. On the eighth night he had no return of the spasm. He nevertheless took the opium, and in the morning was found dead. In this case, a great and sudden change had unquestionably taken place in the nervous system of the patient, and to this must be ascribed the difference of effect. If in the adult, the state of the system makes such a wide difference in the effects of this article, how much more so must all

this be the case in the sensitive infant; and it is by not duly regarding this, that such unexpected results sometimes follow from the use of opium. Thus, for example, a child laboring under the acute pain of colic will tolerate doses, which, in the ordinary condition of the system, might prove destructive.

"There is one condition of the young subject particularly in which this remedy is frequently resorted to, in which this is strikingly illustrated. I mean that state of exhaustion which arises from diarrhœa and other bowel complaints. In this state the head is very apt to become affected, and if opium be given with a view of checking the intestinal discharges, not unfrequently insensibility gradually creeps over the little sufferer, and in a short time death is the result; and this, too, even when the quantity used has been apparently adapted with great nicety to the wants of the case. Every observing practitioner must have witnessed such instances. Now in many cases of this kind, there can be no question that the child sinks under the sedative influence of the opium; and the reason is, that, in the exhausted state brought on by disease, the system succumbs much more readily to the narcotic effects of this article, than it does in other conditions of the system.

"The foregoing considerations appear to me sufficient to account for the greater power, as well as uncertainty in the action of opium on the infant, than on the adult.

"If it be a fact, then, that opium acts in this way upon the infant, it appears to me to involve inferences of great practical moment, which cannot be too deeply impressed on the mind of the young practitioner.

"1. That its use should *be avoided as much as possible* in the young subject. I will not say that it ought to be interdicted altogether, because if used with discretion, it is a remedy of great value in many of the diseases of infants, but it should never be used unless there exists a strong and manifest necessity for it.

"2. Great caution should be exercised in the form in which it is administered. No preparation should ever be used, which *is not of a known and determined strength.* In England, the *Syrup of Poppies* is the preparation most used for children. In this country, it is also used, but not to the same extent. This is a pleasant and mild opiate, and on these accounts is well adapted for children. It is liable, however, to great objections. Besides, being apt to ferment and spoil, it is very *variable in its strength.* On this account it is really a very dangerons article; and many cases are recorded (some of which I have already related) in which fatal results have fol-

lowed the use of it, even in moderate doses. Another objection is, that it is liable to sophistication. Thus a mixture of *laudanum and simple syrup* has sometimes been sold for it. In the London Medical Gazette, (May, 1831, p. 253), a case is related, where a child died in consequence of a small dose of this latter compound having been given by the mother, who had previously given the same quantity of the pure Syrup of Poppies with advantage.

"The best preparations for children are *laudanum* and *elixir paregoric.* These are of known strength, and susceptible of division into the minutest doses. *Dover's powder* is another preparation, which may be given to children. It may readily be divided into the smallest doses, and it seems to act much more mildly than equivalent doses of simple opium. It need hardly be stated that all such articles as Godfrey's Cordial. Dalby's Carminative, &c., should be totally discarded from regular practice. Besides being uncertain in their strength, and on that account exceedingly objectionable, the sanction thus given to them encourages their use by persons out of the profession, who cannot be supposed to be acquainted with the dangerous effects of opium on the infant system.

"3. In very young subjects, we should never begin the use of this article, except in *very small doses.* Although most practical writers lay down cautions about the use of opium in these cases, yet it does not appear to me that these cautions are sufficiently precise. Most of the writers to whom I allude, specify doses as suitable to certain ages, without stating that even these doses may, in certain conditions of the system, prove just as injurious as much larger doses. To illustrate, I will quote the directions given by one of our standard authorities. Dr. Dewees says, 'the proper dose of laudanum for infants and children may be reckoned at the following rates. Half a drop for a child under ten days old; a drop, for one from that period to the end of the month; a drop and a half, or two drops, for one from that period to three months; three drops from this to nine months, &c., &c.' 'When laudanum is to be used as an injection, we may safely increase the quantity three or four fold' He adds: 'These doses are prescribed for children who are altogether unused to the use of this drug; the power of bearing more, may be rapidly increased by habit.' Now, it appears to me that a more dangerous set of directions could not well have been given. Although many children may bear the quantities here specified without injury, yet evey now and then a case will occur, in which the most serious results will follow; and it is against these that the ne-

cessary precautions should always be taken. In the case of a new-born infant, we are entirely ignorant of the manner in which such an article as this will affect it, and it therefore will not do to begin with *average* doses. To practise safely, we must feel our way with doses much smaller; and then we shall have some guide, and the only guide which the nature of the case admits of, to make the necessary increase in the quantity to be given. Under no circumstances, as a first dose, ought half a drop to be given to a child under ten days—or a drop to a child during the first month. One eighth of a drop is sufficient to begin with. The quantity, too, directed for an injection is too large. Instead of three or four times the quantity given by the mouth, as far as my experience goes, double the quantity is quite sufficient.

"4. The doses of opium should not be repeated *at too short intervals.* This, too, is a point which is not sufficiently guarded by some practical writers. One writer, for example, after specifying the quantity suitable for a child of two and three months, adds, that 'this is not to be repeated in less than an hour.' If this means anything, it means, of course, that after the lapse of an hour, the dose may be repeated with safety. This, however, will not be sustained by experience. Even if a first dose does not narcotize, it frequently produces a degree of listlessness and indifference to food on the part of the child, which, if it be kept up by repetitions of the opiate, may eventually prove just as destructive. This is strikingly illustrated in those states of exhaustion from diarrhœa, where the due supply of nourishment is so essential to recovery. Where repeated opiates are necessary, the intervals between the doses should be long enough to enable the child to recover somewhat from the sedative influence.

"Before concluding these observations, I cannot refrain from making a remark or two in relation to the use of this article by persons out of the profession. The mischief that is done in this way is incalculable. If, in the hands of those acquainted with its virtues, opium is an article so dangerous and uncertain in its action, what must it be in the hands of the ignorant; and yet we see it given to infants, day after day, and night after night, by nurses and mothers, not merely without the consent of the physician, but sometimes contraay to his express injunctions.

"There are two ways in which it is used by persons out of the profession, in both of which it proves injurious to the child. The first is by giving it in occasional doses; the second, by giving it constantly. The first is bad enough, but the

second is still worse. The first, now and then, unexpectedly destroys a child; the second is followed by a train of the most disgusting consequences, worse, if possible, than those of habitual drunkenness in the adult. Fortunately, these latter cases are not of such frequent occurrence; occasionally, however, they are met with where the parent, for the purpose of quieting it, has been induced to keep a child for months under the daily influence of paregoric, Godfrey's Cordial, or some other opiate nostrum. In these cases, the effect is to stunt the growth of the child; it is emaciated and puny; the skin is flabby and shrivelled; the lips are bloated, and the countenance sallow and wrinkled. There is an absence of all intelligence, and the whole appearance is haggard and aged, presenting a sort of 'miniature of old age.' Not long since I witnessed a case of this kind, in which a child of fourteen months old did not appear larger than one of two or three months. With the exception of one month, it had been kept upon paregoric almost every day since its birth. The mother was a poor woman, and on inquiring of her the reason, she stated that she had resorted to this method of keeping the child quiet while she attended to her work.

"Of the extent of the mischief annually perpetrated by the unprofessional use of opium, some idea may be formed from a report made to the House of Commons, containing returns from the coroners of England and Wales, of the inquisitions held by them during the years 1837 and 1838, in cases of death by poison. The total number of deaths by poison in these years was 543, of which 52 were very young children, most of them at the breast, in consequence of opium, or some of its preparations having been given by mothers and nurses, in ignorance of its effects. In addition to this, 20 more were destroyed by opium or laudanum administered in mistake for other medicines.

"These facts are certainly appalling; and if any subject connected with medical police is worthy of the atttention of the public authorities, it is certainly this. How the evil is to be corrected, it is not easy to say. Much, however, might be done by the proper dissemination of information on the subject. In most cases where opium is administered to children by persons out of the profession, it is disguised in the shape of some nostrum, so that they are not aware of what they are giving, and even when they are aware of it, they are not acquainted with the dangerous effects of it on the infant system. If parents and nurses were made better acquainted with the fact that such articles as Godfrey's Cordial, Dalby's Carminative,

and most of our medicated lozenges and candies, owe all their composing properties to the opium which they contain, and that opium even in small doses is frequently a deadly poison to the infant, one would suppose that it could not but exert a salutary influence in correcting, to a certain extent at least, the evil of which we are speaking, and the dissemination of this kind of knowledge by the proper authorities would confer a lasting benefit upon the community.

"I have thrown together the preceding observations because the subject is one of interest and importance, and because it appears to me that it has not sufficiently attracted the attention of the profession."

On the Influence of Opium upon the Catamenial Functions.—In the same number of the New York Journal we find a report of several cases in which the catamenial discharge was suppressed by the use of opium. The facts are novel, and may lead to valuable results in practice:

'Case I.—E. L——d, a middle sized, plethoric young woman, *aet.* 24. In 1837, having procured an abortion by means of some powerful drug, she sent for a physician, who gave opiates in the course of his subsequent treatment. From that time until April, 1843, she resorted daily to laudanum, and gradually increased the dose to four ounces per diem. Her appearance last April was as follows: look, stupid; complexion, florid; person, fat; bowels, regular; and she ate very little food. Her catamenia, which had been regular until January, 1837, have never appeared since. I believe she is now in the Magdalen Asylum at Yorkville.

Case II.—E. M——l, *aet.* 23, of middle size and sanguine temperament. About three and a half years ago, during an attack of acute rheumatism, laudanum was freely administered to her. During her recovery, and until March, 1843, she continued the daily use of the tincture of opium; and from 1841 to 1843, she drank from four to six ounces per day. In March last, she had clear complexion, ruddy cheeks, good general health, bowels regular, and ate little food; but from the date of her rheumatism, until March, 1843, her catamenia did not appear, notwithstanding she had been perfectly 'regular' until that attack. She went into the country, in April, 1843, where she could not obtain any laudanum; but she applied to a physician, who prescribed an emmenagogue, which was followed, at first, by a slight, and subsequently, by several profuse, but regular, returns of the catamenia. She has recently (July 20th) re-

turned to this city, and resumed a very moderate allowance of laudanum.

"Case III.—S. S——h, a short, fleshy, plethoric young woman, (colored), *aet.* 26. Until July, 1837, she had menstruated regularly; but, at that date, she commenced the daily use of laudanum to allay the pain of *onychia maligna* of the great toe of the left foot. She continued drinking from two to four ounces of tr. opii, per diem, until June, 1842. During these five years, although her general health remained unimpaired, her catamenia did not appear. At the last-named date, she was cured of the *onychia*, by an operation. The succeeding month, and every month since, the menses have punctually appeared, without the aid of any medicine.

"Case IV.—R——n, *aet.* 25, of middle height, robust, sanguine temperament; has a child four years old. About two years ago, while confined to her room by a fracture of the left tibia, she commenced using opium to relieve pain and restlessness. She has sometimes used twenty or thirty grains of opium per day, for two or three months steadily; at other times, she quitted the stimulant entirely, for the same length of time. While she continued using the opium daily, her catamenia did not appear; but, on forsaking the drug for a month or two, she becomes 'regular' without an emenagogue. Her general health is good, and she has not been constipated at any time.

"Case V.—E. R——, *aet.* 18, a young, unmarried female (colored), applied to me in May or June, 1841, for relief from an increase in the quantity and frequency of the catamenia. She was pale, thin, and of the nervo-sanguine temperament. Pulse frequent, but soft; head dizzy. She has a sister and brother; both are married and have progeny. There were no coagula in her uterine discharges, and except physical weakness, her general health was good. Having tried the ordinary treatment without success, I gave her a combination of acetate of lead, camphor, and *opium*, in minute, frequently repeated, doses. I commenced the use of this combination on the fourth day of the persistence of the discharge, and continued the remedy until the discharge ceased. She was greatly relieved by this practice. Shortly afterwards, on leaving the city, she procured a copy of the prescription; and, without my knowledge, continued using the pills (as her sister informed me lately) nearly a year. The catamenia gradually diminished, and, at the end of a year, entirely ceased. She was subseqnently (Sept. 1842) married. Her general health remains good; her person is thin; but menstruation has not recurred, nor has she

yet become pregnaut. Since abstaining from the pills (Aug. 1842), she has repeatedly resorted to emmenagogues, prescribed by various physicians, but without success.

"*Remarks.*—The first four of the above females are courtezans. But their vocation cannot have been the cause of the arrest of their menses; for I can say, from a somewhat extensive experience in the Lock Hospital, at Glasgow, that this unfortunate class have no peculiar liability to suppressio mensium. E. M——l (case II) informed me that she is acquainted with several opium-eaters, in all of whom the menses have been arrested, as they believe, by opium.

"Without assuming from so few cases, that the daily use of opium will *always* arrest the catamenia, I submit them, in the hope that they may attract the attention of medical men to whatever facts may be within their reach. It will be interesting to ascertain, in relation to married women, who have borne children previously to a resort to opium-eating, whether this habit arrests their catamenia, and their capacity for conception; or whether it arrests the one and not the other. It may also be worth the inquiry, whether opium, in skilfully regulated doses, may not be used as a means to bear women safely through the critical disturbances which occur at the 'change of life.'

"One circumstance is common to all the above narrated cases, viz., the arrest of the catamenia was not followed by the vital disturbances which attend suppression from other causes; or, in general terms, opium, in daily doses, arrested uterine periodicity without disturbing other ordinary vital functions. Here we have an analogy with other well known effects of opium; for this drug, to a great degree, arrests hunger, which, in the present state of civilized society, is a *periodic habit*, for it is seldom allowed to become an actual *want*. In a therapeutical point of view, opium exerts an almost uniform influence as an arrester of periodicity. As a narcotic, its influence is not uniform, for it does not always produce sleep; and I am inclined to the belief, that when sleep does follow its exhibition, it is rather a consequence of the absence of (an arrested paroxysm) than of a direct narcotic influence."

Dr. Gregory on Small-Pox.—[The following remarks are taken from a notice of Dr. Gregory's Lecture on the Eruptive Fevers, in the London Medical Gazette, Oct. 27, 1843. Dr. G. has seen more of small-pox than any other practitioner of the

present day, and consequently his opinions are entitled to great weight.—*Med. Ex.*]

The miasm, as it were, poisons the blood, altering its properties and power of coagulating in a remarkable manner. Among other instances of this the author mentions that he was last year called into consultation with Dr. L. Stewart, regarding a lady in small-pox, whose whole body was of the color of indigo, so that he took her at first for an African. She conversed with our author quite tranqilly but a few hours before her death, "proving that the nervous system is not necessarily, nor is it even usually, implicated in the petechial form of small-pox."

In the cases of adult females, Dr. Gregory states, that when thus attacked menorrhagia is almost always present, and if they be pregnant, they almost invariably miscarry, the fœtus dying in utero. This is what used to be called black small-pox by the older writers.

Ophthalmia is a very common accompaniment of small-pox; but it is a mistake to suppose (as is often done) that this arises from the formation of pustules on the cornea and conjunctiva. There is no specific inflammation of the eye in small pox, but the ophthalmia, so destructive of vision, is a sequela of the disease. It frequently sets in about the tenth day, and runs its course so rapidly that the eye is destroyed within forty-eight hours.

The chest also is frequently affected; but the abdomen is peculiarly exempt from inflammation in small-pox; thus we are told the idea of anything like pustules being found on the mucous membrane of the stomach or bowels is erroneous, the appearances in reality being "in all respects" the same as are met with in typhus fever.

"The whole human race, with very few exceptions, is susceptible of this disease, and the inhabitants of different regions seem to be in this respect on an equal footing. To this general rule there are several exceptions, and persons have been known to go through life without ever taking the disease, though frequently exposed to it. Again, some persons appear unsusceptible of the disease at one time, and yet take it at another. Dr. Gregory gives an example of this: A lady residing at Salisbury was inoculated for small-pox, in 1804, at the age of 83, and took it. She had brought up a large family, many of whom had passed through small-pox, and been attended by her, without her becoming affected with the disease. It has been said that an exemption from the disease

prevails in particular families, but Dr. Gregory states that this idea is entirely without foundation.

That small-pox may occur a second time in the same individual is a well-known fact; but our author states it to be much less frequent than is supposed "At the Small-Pox Hospital very few present themselves who affirm that they have previously undergone small-pox; and of the few who do, but a very small portion can stand the test of a rigid scrutiny." Louis XV. of France is said to have died of a second attack of small-pox, but Dr. Gregory (who has examined the details carefully) is of opinion that the first attack was not really variola.

The power of medical treatment over small-pox is by no means so striking as in inflammation; nevertheless, remedies exert a certain degree of influence upon the disease, and the things to be attempted are thus enumerated

1. To moderate the violence of febrile excitement whenever we meet with it.
2. To check and relieve local determinations of blood, at whatever period of the disease they arise.
3. To support the powers of the system when they flag, either from the malignity of the poison or the long continuance of the disorder.
4. To combat, by appropriate means, concomitant disease.

One of the most interesting questions certainly connected with the treatment of small-pox relates to blood-letting. On this point Dr. Gregory makes the following observations:

"Some writers, in their zeal for blood-letting, have tried to persuade themselves that it is the only measure which can be relied on to lessen confluence, and to prevent the development of pustules in the mucous membrane of the throat and trachea. This opinion is altogether erroneous. Bleeding has no effect on the quantity of eruption, whether cutaneous or mucous. The most confluent eruption has succeeded to the most vigorous employment of the lancet. To bleed, therefore, merely because small-pox is anticipated, with the view, thereby, of preventing confluence, is uselessly to expend that power which will be required for the repair of injury to the surface. You will keep these general principles before you, and take care that in your efforts to diminish internal congestion you do not materially impair constitutional power.

"If the stomach, during the initiatory fever, remains very irritable, rejecting everything that is taken, even the saline effervescing draughts with laudanum, which you will naturally feel disposed to try, I recommend you to apply mustard poul-

tices to the epigastrium and to the feet, and to promote eruption by the pediluvium.

"Again: if the circulation at this period be languid, if the pulse be small and feeble, the skin pale, and the extremities cold; if the patient lies on his back, sunk and exhausted, let him have immediately warm brandy and water, cover him with bedclothes, apply mustard poultices to the centre and extremities of the circulating system, and give thirty drops of laudanum, to be repeated in four hours, if necessary. This cordial plan of treatment must often be continued for several days, when the eruptive nisus is accompanied with depression, and nature appears so obviously unequal to the effort."

In ordinary cases, the great object is to lessen the patient's suffering, without interrupting the process of pustulation; and, if there be nothing particular, a few saline draughts, and a little castor-oil, so as to keep the bowels free, are all that is required. The petechial form of the disease admits, he thinks, of no essential relief from medicine. "The loss of a little blood from the arm has appeared to me more effectual than any other measure." In all cases a warm bath is advisable before the patient again mixes in society.

Where, in the process of the secondary fever, apoplexy, peripneumony, or pleurisy comes on, blood may be taken freely; but in erysipelas, bark and wine are sometimes required. In ophthalmia (one of the most serious evils which follows small-pox) it is sometimes necessary to sacrifice the eye to save the patient's life—the state of whose system prohibits the requisite depletions.

In regard to the eruption itself, Dr. Gregory informs us that benefit is frequently derived from covering the surface with dry powder, such as starch; while fomentations and poultices are the only local means of any service in the abcesses and erythematous inflammations which sometimes attend the stage of secondary fever.

All the plans hitherto suggested for preventing pitting, have, in our author's hands, proved unavailing.

On the subject of inoculation, the opinions of our author are somewhat different from those entertained by most persons, and we shall conclude this part of our analysis by quoting his opinions in his own words:

"Since the introduction of vaccination, it has been the fashion to decry inoculation, and to impute to it mischief of which it was not guilty. The great objection made to inoculation, and that which recently induced Parliament to abolish it altogether, under heavy penalties, was, that it desseminated

the virus, and multiplied the foci of contagion. Dr. Watkinsun and Dr. Schwenke, in 1777, and more recently, Dr. Adams, broke the force of this argument, by pointing out how important a part epidemic influence plays in the diffusion of variola. Had they lived in our times, how strongly would they have fortified their arguments! We saw, in 1838, an epidemic small-pox raging in London, where inoculation had long been discontinued. The admissions into the Small-Pox Hospital in that year exceeded those of 1781 and of 1796. Inoculation was abolished throughout England and Wales in 1840, and the act has been most rigidly enforced; yet, during the last two years, small-pox has visited every county of England.

"Sir Gilbert Blane has attempted to prove by statistics the evils of inoculation. He has shown that the proportion which the mortality by small-pox in London bore to the general mortality, increased during the last century from seventy-eight to ninety-four per thousand. But various considerations serve to weaken the force of this argument. If, for instance, we divide the last ninety years of the eighteenth century into three periods, we shall find that the recorded deaths by small-pox were as follow: 1711 to 1740 (when there was no inoculation), 55,383; 1741 to 1770 (when inoculation was coming into general use), 63,308; 1771 to 1800 (when inoculation was almost universal), the deaths were only 57,268; so that, by this showing, inoculation diminished the mortality by 8,115 lives!

"Statistics are very useful, and deservedly carry great weight with them; but they may be enlisted, with a little management, on both sides of an argument.

"One subject only remains for our consideration, and that is, the question, whether any circumstances would still warrant us in recommending inoculation on scientific principles? Concurring most cordially in opinion that the practice of inoculation by *unqualified* persons ought to have been put down (not in 1840, but forty years before that) by stringent legislative enactments, I still remain of opinion that under several circumstances it is the duty of a medical man to recommend inoculation. These circumstances do not, indeed, often occur; but the legislature would hardly wish to control and fetter, even in a single case, the deliberate judgment of a physician, acting for the benefit of his patient. I will name to you four of these cases: 1. When a person has been found, from peculiarity of habit, unsusceptible of vaccination. 2. When new sources of vaccine lymph are introduced, and it

becomes of importance to ascertain that the new virus is efficient. 3. When young persons (between the ages of ten and twenty), vaccinated in early life, are proceeding as cadets to India. 4. When small-pox unexpectedly breaks out in a country district, at a time when (even with the facilities of a penny post) vaccine virus is not to be obtained.

"Other cases, equally strong, might be put; but what I have said will probably suffice to show that a clause (duly guarded against abuse) permitting qualified medical practitioners to inoculate under circumstances of urgency, would have been a useful addition to the Vaccination Extension Bill. That it was not so added was no fault of mine."—*Lon. Med. Gaz.*, Oct. 27, 1843.

Vital Statistics of Sheffield.—One of the most prosperous trades in Sheffield is the silver plated manufacture. Until the last two years it has not shared the distress experienced by all engaged in making cutlery. The workmen belonging to this branch amount to 400, and form several unions, the restrictive laws of which are effective, even in times of bad trade. The earnings of men vary from 18 to 42 shillings, and of women from 8 to 15 shillings a week.

The workmen in this manufacture are sober, intelligent, and steady, and are, or were, in tolerable circumstances. This is attributable to various causes. First, the rule of the trades' union, which prohibits the masters from taking apprentices, has reduced the number of workmen, formerly superabundant. Secondly, the expensive materials and tools used in this trade, prevent that sudden conversion of men into masters which is so common in so many other occupations. Thirdly, children are rarely employed in this trade, much under fourteen years of age. Fourthly, the workmen are not liable to be thrown out of employment by machinery. This occupation is neither particularly detrimental to health nor conducive to longevity. In the Silversmith's Benefit Society, the mean age attained by those who die above the age of 40 is 59.12; while among the working classes, generally, of Manchester, Leeds, and Liverpool, it is 58-97; so that the advantage in favor of the silversmiths is slight indeed. In rural districts the mean age attained by persons above 40, is 68.76. What a difference!

Next come the *saw manufacturers.*

"The workmen in this branch of trade are, perhaps, in no

degree inferior in intelligence, sobriety, and general good conduct, to those in the manufacture of which we have just treated. They have both, equally, their respective unions, which regulate wages, the introduction of apprentices, and which, in time of sickness, afford a weekly allowance."

In the branch called *par excellence* saw making, there are 208 journeymen, of whom about 20 are not in the union; 130 boys—being, indeed, more than the rules of the union allow; and about one woman or girl to every eight men.

Nine-tenths of the men are in sick clubs; nineteen out of twenty can read and write; and their average wages are 28 shillings a week, the extremes being 24 shillings and 45 shillings.

The *saw grinders* are fine healthy men, who generally live in the country, and often add the cultivation of a plot of ground, or even a small farm, to their mechanical occupation. They are peculiarly liable to accidents, and of 42 saw grinders who have died since 1821, 5 were killed by the breaking of stones.

Dr. Holland gives a list of 13 accidents, being a part of those which have happened to 78 living members in the union. Most of them are very serious, *e. g.* "3. Drawn over the stone; severe hurt; in bed nine months." "9. Arm severely lacerated; lame three months."

The *edge-tool makers* are well paid, but are a less intelligent class than those previously mentioned. The number of *foremen* and *strikers* is equal in this trade; the former are said to earn, on the average, £1. 14s., and the latter £1. 2s. a week.

The account is furnished by a manufacturer, and, though no doubt accurate as far as it goes, is defective in an important point. We do not learn from it how many months in the year the men are at work. The prices have been strictly enforced, even during the last three years, but for what portion of that time have the men obtained them?

Three-fourths of the workmen in this branch are in sick clubs; but only one among five adults can write. Trades that require strong arms rather than acute heads, will be favorable rather to sensuality than intelligence; a blacksmith drinks more than he reasons; and Dr. Holland finds that the forgers of Sheffield have big occiputs, but low, retreating foreheads.

The spring knife makers are badly paid, and badly educated. "A few superior workmen may earn from 30s. to 40s. per week. In the first manufactories of the town the average

is from 16s. to 25s. But in many of the inferior manufactories, the workmen are receiving no more than 12s. or 16s.

Moreover, when Dr. Holland was writing, in June, 1843, this scale of wages was very greatly reduced.

This branch is not in union; not above half of the adults can read, and not one-fourth moderately well; about two-thirds only of the adults are in sick clubs.

Two circumstances combine to depress wages in this department. The most important is the smallness of the capital required to set up as a cutler. A few pounds are sufficient. The other one is the facility which this branch offers for the employment of children at an early age.

The *file trade*, as regards the circumstances of those employed in it, holds a middle place between the silversmiths and saw-makers, who are above, and the spring knife cutlers, who are below them.

The branch of the file trade called *forgers*, consists, like the edge-tool makers, of foremen and strikers; but the profits are more equally divided between the two classes of workmen in the present instance; a foreman averaging £1. 12s. 10d. a week, and a striker £1. 6s. 9d.

As to *file-cutters*, by reference to thirty books of file-cutters, men of *steady* habits, each having the assistance of a boy, the average per week was found to be £1. 18s. 6d. Eighty per cent. of the adults can read, and seventy can write. The proportion among the boys is rather greater; which may either show that education is making way, or that a certain number of adults ferget their little scholastic learning.

The *fork-grinders* carry on the most unwholesome trade in the kingdom. Fork-grinding is always performed on a dry stone, and the clouds of stony and metallic dust produced in the process, clog up the respiratory organs, and cause grinder's asthma, a disease which carries off its victims, in a majority of cases, before the age of thirty!

The better the state of a given trade in Sheffield, says Dr. Holland, the smaller is the proportion of minors employed in it. Thus in the silver-plated branch, the minors are to the adults as 16 to 100; and among the edge-tool makers, 12½ to 100. In the spring knife branch the per centage is about 25; but among the fork-grinders the minors actually out-number the adults, as there are 100 boys to only 97 men!

Of the ninety-seven, about thirty are at this moment suffering from grinder's asthma. It is remarkable that in this destructive trade the men are ill paid, but Dr. Holland does no

say what their wages are. Nor is their education superior to their condition; for of the 197 men and boys, one hundred and nine can only read, and 69 can write.—*London Medical Gazette*, Sept. 8th, 1843.

Poverty of Medical Men: how to eke out a livelihood.—"One of the most certain signs (says a writer in the French Medical Gazette) of the 'decadence' of a profession, is the necessity which many of its members experience to seek for supplementary resources. Medicine is a most noble profession, but in the present day it is certainly one of the worst trades (industries) going. It is all very well to talk of dignity and high feelings; let it be remembered that a doctor has a stomach as well as a heart to attend to. In Paris alone, there are not fewer than 2,000 medical men, and it may be readily supposed that a great number of them scarcely ever get a fee. How, then, are they to live until practice comes?—by turning their talents, whatever these may be, to the best account. The other day I called on a confrère, whose circumstances I knew to be in not a very flourishing condition; I found him busily engaged in painting a portrait; he said that he had sold several of late. But what is your object? said I—'renforcer le metier,' was his answer. If a patient called, he put down his palette, doffed his blouse, slipped on his black coat, and with a grave and becomingly professional countenance, went to his consultation-room; no sooner was the interview over, than he returned to his studio, resumed his working dress, and set to his painting again with all the cheerfulness of a brave heart. 'I could not help saying, Apollo is god of the arts as well as of medicine.'

"Several young medical men have exerted themselves with success in the way of 'inventions industrielles;' for example, in the manufacture of portable liquid gas, in the construction of a night-telegraph, in preserving timber for ship-building, &c.

"The lamp C———, we owe to the ingenuity of an intelligent physician, who is practising in the suburbs, and who thus diffuses both light and health around him.

"Not a few imitate the example of *Boerhaave*, *Pinel*, and others, and give instructions in languages, mathematics, &c., translating, perhaps, Virgil and Horace in the morning to one set of pupils, and Hippocrates and Celsus in the evening to another. Often the wife, too, lends a helping hand 'à renforcer le metier,' either in the way of teaching, letting lodgings,

or perhaps keeping a little magazine of linen, or silk goods, &c.—whatever, in short, that brings grist to the mill!"—*Medico-Chirurgical Review*, for July, 1843.

Professional Success—Gravity versus Hilarity.—Our contemporary of the Gazette has favored the profession with an Essay on Professional Success, which is good in its way, though not exactly after the manner of Dean Swift, nor Rabelais, nor Goldsmith, nor ever quite so light as Addison's. But *n'importe*, it inculcates some very sound decorum and morality, and, if somewhat prosy, shares that fault in common with many excellent discourses. But the point to which we intend to allude is one generally discussed by our contemporary—the advantages of seriousness. He observes:

"Seriousness, not occasional but habitual; earnestness, not affected but real, are useful in securing the confidence of the sick, and indispensable in the studies which prepare us for practice; and if the unvarying liveliness of a mercurial temperament, seems, in some instances, to have been a prime element of professional success, we may rely on it that such unwearied cheerfulness has only lightened the labors of conscientious activity; that it has been kept up by a consciousness of duties performed, not used as a substitute for duties neglected. Of those who can set the table in a roar, how many can leave it at the calls of duty?"

True as this may be, it cannot be deemed new, as their very charter designates the members of the College of Physicians "viri *tristes* et docti," and, no doubt, their solemnity stands them in stead. Who has not remarked some learned man, bending over a dubious stool, with a face in which are displayed all that seriousness and earnestness, so powerfully inculcated by our contemporary; and who, at the same time, has not noted the admiration which such philosophical devotedness to the cause of science and his patient, has excited in the attendant mother, or the aunt, or, above all, in the grandmother? The well weighed words, the Burleigh shake, of a professional opinion, as dark as the darkest Delphic oracle, and quite as well suited to whatever may turn up, are part of that gravity which must pervade the sayings and doings of a doctor, and to the uninitiated savour a little of humbug. In fact it is often, in this composite world of ours, difficult to separate the latter abused, but well used, instrument from the "conscientious earnestness" which it represents.

It must be agreed, we think, *nem. con.*, that doctors of physic should be grave, at any rate before their patients. Who, then, is to be lively? for something like fun may surely be permitted to the faculty. We fancy it must be given up to those queer fellows, the surgeons—whose business of passing catheters, tying piles, and curing claps, does not necessarily require such length of visage, or intense profundity of thought. And hence, we suppose it is, that so many of these same surgeons have been chatty, good-humored sorts of men, not indisposed to crack either a bottle or a joke, and have not greatly suffered in the estimation of the world notwithstanding. Far be it from us to defend this. We merely chronicle the fact, and at the present time of day, when to look wise is almost as good as to be so, and to scorn pleasantry is held by many as a certain evidence of mind, we would caution the rising generation against being misled by the lives of such persons as Cooper or Abernethy.—*Medico-Chirurgical Review*, October, 1843.

Dipsopathia,—the latest Medical Humbug.—Extremes meet. The Medico-Chirurgical Review, for Jan. 1844, furnishes the following intelligence:

"Priessnitz has got a rival close to his own castle! About four miles from Graffenberg, in the lovely valley of Lindiviesse, Dr. Schrott, an old school-fellow of the apostle of hydropathy, has started a *cure-all*, in opposition to the Silesian peasant. His methodus medendi is no vile imitation of that of the far-famed practitioner of Graeffenberg. It is a veritable antipous. The one inculcates the drinking of water, and water only. Schrott forbids water and all other fluids—and thus cures by thirst!"

Antagonism of Phthisis and Intermittent Fever.—No such antagonism has been observed by the profession of the United States; but, on the contrary, it is found that the persistence of ague is apt to lead to the development of tubercles in the lungs. Dr. Richardson's paper, in this number, may be referred to for testimony. The following is to the same point:

"Dr. Gouzée, chief physician to the Military Hospital, Ant-

werp, in a note addressed to the editor of the *Gazette Medicale*, says, 'The partizans of this opinion affirm that phthisis is unknown in countries where marsh miasma reigns.' This may be true with some, but certainly is not the case at Antwerp, where, though intermittent fever is endemical, phthisis is very prevalent. Thus, from 1834 to 1842, of 453 deaths at the Military Hospital, 123 were caused by phthisis, or one in three and two-thirds. During the first six months of 1843, of 17 deaths, 9 were from phthisis, or more than one-half, though intermittent fever was more prevalent than usual. Moreover, no doubt can exist as to the nature of the disease, the *post mortem* examination having demonstrated the tubercles. The same remark is applicable to the inhabitants of the town; therefore, the law announced by Dr. Boudin is not without an exception; for, in Antwerp, phthisis and intermittent fever reign simultaneously, and the one does not prevent the development of the other."—*Medical Times*, Dec. 1843.

Toxicological Effects of Sulphate of Quinine.—It has become a prevalent practice in the Southwestern States to employ sulphate of quinine in large doses. We have administered it in doses of 15 grains, at intervals of two hours, until, in one case, the patient took during the day 90 grains. The disease was a malignant intermittent, generally termed congestive fever, and the remedy had the desired effect of preventing the return of the chill, and establishing convalescence. Cases are reported in which much larger doses were given. In a few instances as much as a drachm has been taken at one time. But this practice, it appears, is not without danger.

"M. Melier lately read a memoir to the Academy of Sciences, in which he gave an account of some experiments of Magendie on the effects of poisonous doses of quinine. Dogs were poisoned with this substance, and on dissection distinct fluidity of the blood was observed, and morbid enlargement of the parenchyma of the lungs. M. Melier therefore cautions against the practice of administering the large doses."—*Edinburgh Med. and Surg. Jour.*

Milk injected into the Veins.—M. Donnè, in the course of the past summer, stated to the French Academy of Sciences, that, having been struck with the analogy between the consti-

tution of milk and that of the blood, he had repeated the experiment of injecting the former fluid into the veins of various animals; and his experience, contrary to that of former observers, went to prove that those animals (except, from some unascertained cause, the horse), not only supported the operation without injury, but that the globules of milk served the purpose of those of chyle, and became eventually transformed into blood globules.—*Lancet*, from *Gazette des Hôpitaux.*

Purification of the Air without renewing it.—The *Courier Français* states that a most curious experiment has been lately made in the hospital of the Salpetriére at Paris with a machine invented by Dr. Payerne, called the purifier, the object of which is to purify the air, without renewing it, in hospitals, prisons, mines, diving bells, and, in general, in all places where the air has been vitiated. This experiment, which excited the greatest interest from the important results to be derived from its success, was witnessed by deputies from the Academy of Sciences, the Administration of Hospitals, and by several distinguished chemists and physicians. Dr. Payerne entirely succeeded in what he proposed, viz: to purify the air completely in an enclosed space without communication with the external air. The thermometer, at the same time, descended several degrees. Dr. Payerne proposes, in a few days, to make an experiment with his machine on a diving bell in the Seine, by which the divers may remain an indefinite time under water without communication with the atmospheric air.—*London Med. Gaz.*, Nov. 1843.

Fair at the New York State Lunatic Asylum.—A fair, as we learn by the Utica papers, was held at the Lunatic Asylum, in that city, on the 18th.

"The table was spread in the lower hall of the eastern wing, and extended about two-thirds of its entire length, which is some 250 feet. Most of the patients' rooms on that floor were thrown open, and all the inmates of the Asylum who were in sufficient health, were permitted to mingle with the gay and busy throng from the outer world which crowded the hall. Among those actively engaged in the management of the fair, the distinguished female philanthropist, Miss Dix, who, in the prosecution of her benevolent labors, has been for some weeks a visitor at the Asylum, attracted much attention.

"This is the first thing of the sort, we presume, ever attempted within the walls of a lunatic asylum. We trust it may prove the source of as much benefit to the inmates as it was of pleasure to the visitors. The public are much indebted to the able superintendent, Dr. Brigham, and the other officers of the institution, for arrangements and attentions which made the whole affair pass off in the most agreeable manner.

"We learn that a fund of about $200 has been realized from the fair, which will be expended for books, musical instruments, &c. It was a source of much amusement to the patients, and its beneficial effects are strikingly apparent with some of them. We are further informed that some dozen of the patients are writing accounts of the fair, but it is not known whether their productions are intended for 'the public eye.'"

Mortality of Boston in 1843.—An unusual degree of good health characterized our city the past year. No raging epidemic prevailed, either to alarm the people or sweep off the multitude to a premature grave. The whole number of deaths was 2,197—which was by no means large, in proportion to the population, now believed to be considerably above one hundred thousand. Some of the prominent causes of mortality were as follows, viz: consumption, 249; diseases of the bowels, 65; dropsy of the brain, 85; typhus fever, 72; scarlet fever, 108; infantile diseases, 142; stillborn, 189; measles, 43; inflammation of the lungs, 59; diseases of the heart, 34; convulsions, 50; croup, 52; small-pox, 53.

There is extreme care taken by the city authorities in maintaining an admirable system of street cleanliness; and so long as the same efforts are made to preserve the public health, Boston, we may hope, will continue to be distinguished for its freedom from those pestilential scourges, which occasionally sweep off multitudes in our southern cities.—*Boston Med. and Serg. Journal*, Jan. 1844.

Castration performed on the Patient by Himself.—An old gentleman, having suffered most excruciating pain with a scirrhous testicle, one night, when alone, was maddened to such a degree with pain that he took hold of the spermatic cord with the finger and thumb of the left hand, caught the

testicle in the right hand, and commenced twisting, and he continued till he severed it. He told me himself it took fifteen rounds hard work. No hæmorrhage naturally followed, nor did any other bad symptom.—*Med. Times.*

Treatment of Hooping-Cough by Cochineal.—Dr. Cajitan Wacht, of Vienna, has treated nine children affected with hooping-cough, by cochineal, which has been already used for that purpose by English physicians. The medicine has been administered in every stage of the disorder, and its efficacy has been so very instantaneous, so constant, that notwithstanding the small number of cases Mr. Wacht had, he believes himself authorized to announce cochineal a specific in hooping-cough. The following is the mixture he used:

Cochineal, - - -	10 decigrammes.
Sugar, - - - -	32 grammes,
Warm water, - -	192 grammes.

Dissolve. Dose, 3 teaspoonfuls during the 24 hours.

It should not be used after it has been made thirty-six hours, decomposition having then commenced.—*Journ. de. Med.*

Note by Translator.—The mixture commonly used in this country is formed of cochineal, ʒj.; salt of tartar, ʒij.; water, 4 oz.; dose, a teaspoonful. From Mr. Wacht's statement above given, it would appear that its agency in the cure of hooping cough, is due to the cochineal alone.—*American Journal of Pharmacy*, Jan., 1844.

THE WESTERN JOURNAL.

NEW SERIES.—VOL. I.—NO. II.

LOUISVILLE, FEBRUARY 1, 1844.

JARVIS ON INSANITY.

"Insanity among the colored population of the Free States," is the title of an article in the January number of the American Journal of the Medical Sciences, which has been published in a separate form, and of which we are indebted for a copy to the politeness of the author. Dr. Jarvis is known to the readers of the Western Journal as the author of some valuable papers on the Lunatic Asylums of the United States. He has been industrious in collecting the statistics of insanity in this country, and the pamphlet before us brings to light some curious facts, not, indeed, in relation to insanity, but touching the character of the sixth census as it respects the prevalence of mental disorder among the different classes of our population.

The impression made by the details of the sixth census concerning the existence of insanity in this country, and especially among the two races, will be remembered. The statement, that slavery was proved by the experience of our country to be tenfold more favorable to mental health than freedom, was not likely to escape the

severest examination. Dr. Jarvis has sifted the evidence on which it rests, with his characteristic patience, and the result is given in the paper before us. He finds the sixth census to abound in errors—shows that colored lunatics are set down for places where not a single individual of the African race is to be found—in a word, that the document, so far as the statistics of insanity are concerned, is "a bearer of falsehood to confuse and mislead." "In many towns *all* the colored population are stated to be insane, in very many others, two-thirds; one-half, one-fourth, or one-tenth of this ill-stared race are reported to be thus afflicted, and as if the document delighted to revel in error, every proportion of the negro population from sevenfold its whole number to less than a two-thousandth, is declared to be lunatic." Dr. Jarvis shows all this in tables which he has made out from the census.

Thus, in Shelby, New York, the total colored inhabitants is stated to be 1—the colored insane 7. The negroes in Worcester, Massachusetts, are 151 in number, 36 of whom are under 10 years of age; yet the census makes out 133 colored insane in that town. In Athens, Vermont, the black population is 2, and both are reported insane. Freetown, Leominster, Wilmington, Sterling, and Danvers, in Massachusetts, are reported by the census as destitute of a black population, but yet this queer document contrives to get two colored insane into each of these places. Plympton, in the same commonwealth, has two free blacks, according to the census, and twice the number of colored lunatics. Waterford in Connecticut, is still more unfortunate—her black population, amounting to 2, furnishes 7 lunatics! Providence, N. Y., has 3 colored inhabitants, of whom two are insane, and two both *deaf and dumb;* and Dryden, in the same State, reported to have no colored inhabitants, is set down as containing two colored insane, and also "two blind negroes!" But the most astonishing prevalence of insanity among the poor blacks, is reported at Washington, in Pickaway county, Ohio, where the colored inhabitants are set down in the census at 0, and the colored insane at 7!

Well may Dr. Jarvis say, in view of these errors, "we are disappointed, we are mortified." He commends the matter to the attention of Congress. He suggests that the original papers respecting the sixth census be revised, by which all the errors made in copying may be corrected. Y.

A NEW MEDICAL JOURNAL.

Drs. Fenner & Hester propose publishing, in New Orleans, a quarterly journal of Medicine, the first number to be issued on the 1st of May next. Each number is to contain about 200 pages, and to consist of original communications, reports from the New Orleans hospitals and infirmaries, a periscope of practical medicine, and brief notices of recent medical literature. The city of New Orleans affords many advantages for the publication of a journal of practical medicine, and we hope the proposed undertaking may be successful in developing them. A report of the doings of the profession in that great city, could not fail to be interesting to their brethren in other parts of the world. The terms of the "New Orleans Medical Journal" are $5 per annum, payable in advance.

Y.

NASHVILLE MEDICAL SCHOOL.

The Trustees of the Nashville University are about to organize a Medical Department in that distinguished institution. We have heard the names of several of our medical friends mentioned in connexion with the various professorships, but, so far as we have heard, no elections have yet been made. Nor, we believe, is the time yet fixed for putting the school into operation. We presume, however, that an announcement by the Trustees may be looked for soon.

Y.

PROFESSOR LITTON'S INTRODUCTORY.

This is a glowing discourse by Professor Litton, pronounced before the Medical Class of the St. Louis University, at the beginning of the lectures in November last. Dr. Litton is a scholar and a chemist of high promise, and the zeal which he displays in his introductory lecture is a guaranty for the fulfilment of all the hopes of his friends. He pleads the cause of science like a true votary.

His mind and heart are full of its beauty and its value. He invokes the commercial spirit of St. Louis to rear up a chemical school in that growing metropolis, which shall vie with the renowned institutions of other lands. A pupil of the great chemist of Giessen, Dr. Litton is animated by all his master's devotion to chemical science. We hope his appeals to the munificence of his fellow-citizens may not be made in vain. Y.

MEDICAL ETHICS.

Professor Harrison, of Cincinnati, has favored the profession with an excellent lecture on the subject of *Medical Ethics*. The profession needs many such lectures. They ought to be delivered all over the country. We ought to have line upon line—precept upon precept. The good lessons ought to be repeated continually. Dr. Harrison's lecture would form a good manual on the *duties of physicians*. We hope it will be circulated widely, for we are sure the principles so happily enforced in it cannot be contemplated without profit. Y.

MEDICAL COLLEGE OF LOUISIANA.

In a notice of this institution, contained in one of the Travelling Editorials of the Senior Editor, under date of March last, it is said: "The lectures are delivered in a rented house, but the Professors have begun the creation of a fund for the erection of an appropriate edifice." Since this was written, a commodious Medical Hall has been erected, and is now occupied by the Faculty. It gives us the greater pleasure to notice this fact, as it is the result solely of individual enterprise. Neither the State nor the city authorities lent their aid. Several physicians, however, unconnected with the institution, and some of the private citizens, showed a praiseworthy liberality, by valuable donations to the library and museum. We trust the expectations of all its friends may be realized, and that the Faculty may reap their reward both in emoluments and honors. C.

RUSH MEDICAL COLLEGE, CHICAGO.

The Mississippi Valley is remarkable for many things, but will soon be as much so for its medical colleges as for aught else. These multiply astonishingly. They grow as rapidly as Jonah's gourd. One lies down at night to rest from a hard day's toil, and after a deep sleep, such as fell upon Adam, he wakes, and lo! by his side is a medical college, "complete from turret to foundation-stone." They come not singly merely, but by twos and threes—in populous cities, and amid "populous solitudes of bees and birds" as well. Not quicker or more sudden did Roderic Dhu's archers, at blast of bugle-horn, start up from rock and tree, than do these institutions appear at trumpet or even penny-whistle call of some aspiring grandson of Apollo. With one flourish of the serpent-bound staff of him worshipped

> In Argolis, beside the echoing sea,

they come, thick-clustering over the land,

> As when the potent rod
> Of Amram's son, in Egypt's evil day
> Wav'd round the coast, up-call'd a pitchy cloud
> Of locusts.

We have now a complete chain of them, enough to make a veritable *cordon sanitaire*. Disease is hemmed in—is "cabined, cribbed, confined"—and can have neither egress nor ingress without challenge from trusty sentinel. Tracing them on the map, they make a figure resembling an ill-shaped battledoor. Beginning with that at New Orleans, where, as stated in another paragraph, a new college building is just completed, we go to St. Louis and find two more; next to Jacksonville where there is a fourth; then to Chicago and count a fifth; turning thence down the lake shore, we find a sixth at Laporte; proceeding to the southern shore of Lake Erie, Cleveland gives us a seventh, and Willoughby, eighteen miles distant, an eighth; crossing the country and following the Ohio, Cincinnati gives the ninth; a *detour* to Lexington and we have a tenth; Louisville makes the eleventh; another *detour* to Nashville, completes the dozen; and if we count one that is in a formative stage at Madison, Indiana, we have a clean baker's dozen. Seven States, containing 13 medical colleges, some of which are almost within call of each other!

The youngest of these, is the *Rush Medical College*, at Chicago—a city which 12 years ago was a fur-trading establishment, and now contains some thousands of inhabitants. The charter of the college dates from March, 1837, but no organization took place until the past autumn. In October the present faculty was appointed; at a subsequent period, means were provided to defray the expenses of a chemical apparatus and dispensary; and the first session of the college opened on the 4th December last. The following gentlemen compose the faculty: Daniel Brainard, M.D., Professor of Anatomy and Surgery; James V. Z. Blaney, M.D., Professor of Chemistry and Materia Medica; John M'Lean, M.D., Professor of Theory and Practice of Medicine; and M. L. Knapp, M. D., Professor of Obstetrics, and Diseases of Women and children. Dr. Brainard lately filled with great credit the chair of Anatomy in the University of St. Louis. Dr. Blaney, though young, is full of talent, and has that enthusiasm in his profession so necessary to a teacher, and which cannot fail of success. Of the other gentlemen we know nothing, but doubt not they are every way worthy their two colleagues.

Of Dr. Brainard's excellent address, delivered at the opening of the college, we shall say nothing now. We have laid it aside with a number of others, which, at some favorable moment, we intend to take up and *eviscerate* for the edification and instruction of our readers. The best wish that we can give him and the Rush Medical College (and we give it heartily) is, that the spirit of the great man whose name it bears, may rest and remain with them. C.

A NEW LIFE-PRESERVER.

Our friend, Dr. L. H. Mosby, has invented a *life-preserver* which strikes us as superior to anything of the sort ever yet proposed. It consists of a tin box rendered air-tight, which is to be fitted to the bottoms of the chairs on steam boats, and which, without being in the way, will form a buoy, always at hand, upon which several persons might float in case of accident. It is at once cheap, simple and efficient, and we have no doubt, will soon be found in use on all our steam boats. Dr. Mosby has taken out a patent for it. Y.

MEDICAL CLASSES.

In our last number, we gave the reputed size of the classes at several of the medical schools in the west. From our contemporaries beyond the mountains, we learn, that the Atlantic Schools are fuller than usual. The lecture term recently closed in the Geneva Medical College with a Class of from 150 to 180 A writer in the Boston Medical and Surgical Journal reports about 500 students at the two schools in New York city, and 600 in the two Philadelphia schools. This statement is confirmed by the editor of the Medical Examiner, who says, "at the two schools in Philadelphia the number of students is greater than at any former season. The University of Pennsylvania has more than her average class, and the number at the Jefferson Medical College exceeds that of last year, by nearly one hundred." Y.

MESMERISM.

Mesmerism seems to have over-run the land. The marvellous feats, of which we heard so much from foreign parts, a few years since, are now daily performed in all the towns and villages of our country. "Such things o'ercome us like a summer's cloud," not, however, without exciting the "special wonder" of the people. A body of scientific gentlemen, in this city, performed a series of experiments, a few weeks ago, intended to test the reality of the mental sympathy, alleged to exist between the *mesmerisee* and the persons in communication with her. The report of these experiments will be published in our next number. The facts which it sets forth make a curious mass of evidence on the subject, which may enable those who are still in doubt, to form some judgment touching the pretensions of this "science." Y.

MEDICAL INSTITUTE OF LOUISVILLE.

We expect to be enabled to announce some important changes in the organization of this institution in our March number. Dr. Cooke,

the venerable professor of Theory and Practice, having signified to the Board of Managers his determination to retire from the school, at the close of the present session, the Board contemplate reducing the number of chairs to seven. Professor Cooke has been confined to his house in the country, for many weeks, with severe indisposition. He is now, however, we are happy to be able to inform his many friends, convalescent. His complaint was pleurisy. Y.

TO CORRESPONDENTS, &c.

Dr. Drake expects to commence a second tour through the States of Louisiana, Florida, Mississippi and Alabama, early in the spring, in the prosecution of his design of investigating the diseases of the south-west in the localities where they appear. He will receive and forward communications for the Journal. Drs. Yandell and Colescott will remain in Louisville during the summer, where they may be addressed by their correspondents. All business communications to be addressed to the publishers, Messrs. Prentice & Weissinger. Y.

WESTERN JOURNAL.

The delay incident to the procuring of new type is the cause of the late appearance of this and the previous number of our Journal, but our March number will be issued in better time, and thereafter we expect to be able to get the work out punctually at the beginning of the month. We are resolved on setting our subscribers a worthy example of punctuality. Let them emulate it, and the Journal will be placed beyond the reach of any contingency.

THE

WESTERN JOURNAL

OF

MEDICINE AND SURGERY.

EDITORS.

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THE

WESTERN JOURNAL

OF

MEDICINE AND SURGERY.

MARCH, 1844.

ART. I.—*Report of a Series of Experiments on the alleged Mental Sympathy of a person said to be in a state of Mesmeric Somniloquism.* By an Association of Gentlemen.

EDITORAL NOTICE.

The experiments recorded in the following Report were made at our suggestion, on a young lady lately exhibited publicly in this city. The interest excited by these public exhibitions, here and elsewhere, may justify us in publishing an account of the series of private experiments of which we give the entire record. Several of them it would have been desirable to repeat, but opportunity for doing so did not occur. The Report after being drawn up was submitted to the gentlemen who made the experiments, who decided, unanimously, that it presented the facts of the case correctly. Indeed, they were copied with very great care from the original records. After discussing the report, it was ordered to be published in this Journal, but as some of the gentlemen

wished their names withheld, the whole have been suppressed. Had their names gone with it, their high respectability for intelligence and integrity, would have given additional assurance of the truth of what the report contains. While preparing the report, we were led to draw up a speculative paper on the Philosophy of Mesmeric Somniloquism, which was read immediately after that document, and will appear in our next number. D.

ANALYTICAL REPORT.

The Committee to whom was referred the record of the experiments lately made by themselves and their colleagues, on Mesmerism, with instructions to transcribe, analyse and present in a digested form, the facts presented in it, have sought, faithfully, to accomplish the same; and respectfully submit to the scrutiny and consideration of their associates, the following REPORT:

MODE AND OBJECT OF THE EXPERIMENTS.

The object proposed by the association, was to ascertain the truth of the assertion that the individual who has been brought by the manipulations of Mesmerism into a somnambulic and somniloquent state, is susceptible of the thoughts and feelings of the person who may be in communication, independent of all known modes of intercourse. To this end it was agreed in writing, that each member of the association, should describe the objects or scenes which he intended to present to the somniloquist, not making them known to any person whatever, and sealing the paper hand it to the member appointed to keep the same; that he would put no leading question to the somniloquist; that her answers should be listened to and reported, by members of the association, written down by others, sealed up, and delivered to another member than the one who held the other sealed papers, and that, at the close, the two sets of papers should be opened and compared; all which has been observed.

OF THE MESMERIZATION.

The somnambulic and somniloquent state was, at all the meetings of the association, produced in the same manner, in

about the same time and presented the same phenomena. Seated in front of the young lady, her mesmeriser, pressed the balls of his thumbs against hers and looking steadily in her face, it immediately assumed a subdued and quiet aspect. She did not look into his eyes, but directed her own a little downwards. Very soon a slight dilatation of the pupils occurred, to which succeded a little quivering of the eye-balls, and shortly after they rolled upwards and outwards, the lids instantly falling, and remaining down throughout the whole course of the experiments. The time occupied by the mesmerization was from two to four minutes. In three out of the four meetings, the state of the pulse before and immediately after that process was observed and recorded, and was as follows: First, before, 82 in a minute, after, 96; second, 80 before, 88 after; third, 82 before, 96 after. In two of the meetings, the pulse was examined towards the close, and found to have fallen to its natural standard. Her respiration did not appear to be changed, nor was there any sensible change in the heat of her hands and face. No spasms or cataleptic rigidity of her muscles was observed, nor any difficulty of articulation. The experiments of each afternoon, lasted about an hour and a half, during which she sat erect and unsupported on a sofa; and when brought out of the somniloquent state, seemed not to be fatigued, and declared that she was neither tired nor indisposed. No experiments were made to ascertain the reality of that state, as the mode of inquiry adopted, did not require a previous decission of that point. Without affirming, the association admitted the reality of her somniloquent condition.

SCENES AND OBJECTS RECOLLECTED BY THE GENTLEMEN IN COMMUNICATION.

As many of these were of a complex character, the committee have found it necessary to an intelligent view of the conformity of her answers, to analyse them, and present the whole in a numerical series, to which they have referred for the respective topics in writing out her answers.

Topics of Mr. A. B.

1. A gold watch with a white dial-plate, held in the hand.
2. The room in which the experiments were made.
3. Experiments on Mesmerism in a different room, all the persons present, being three gentlemen and one lady.
4. The interior of the Unitarian church, Louisville; as a public Mesmeric lecture room, two gentlemen in conversation with a mesmerized lady.

Of Mr. C. D.

5. The cave house, near the Mammoth Cave, with a view of its colonade in front.
6. Enter the cave, preceded by a guide carrying torches; light up a part with Bengal light; pass through a narrow passage to the river; cross it, and enter Cleaveland's cabinet.
7. Enter a row-boat on the (Ohio) river, clad in a hunting dress carrying a gun; proceed to six-mile island; and return against a strong wind, creating large waves with white caps.
8. Shooting wood-cook on the island.
9. The room in which the experiments were made, and the persons therein.
10. A silver lancet case, opened and the lancets exposed.

Of Mr. E. F.

11. The steamer Buffalo partially aground in the straits, St. Mary, near Lake Superior. The rocking of her by the passengers in large numbers running from side to side, on the upper deck; the engines in motion at the same time; the green shores on each side; a white awning over part of the deck; a group of ladies with a French mesmerizer in their midst.
12. Infant baptismal ceremony in Christ's Church, Cincinnati; the pastor alone within the chancel; an assemblage of infants with their nurses and parents in front; considerable number of spectators; some of the children crying.
13. The last scene repeated.
14. The same, again repeated.
15. Solitary walk, on a bright day, upon the outer side of Santa Rosa Island, in the Gulf of Mexico; white drifted sands

on each side and behind; scattered ever-greens; trees and shrubs; wave after wave breaking in white foam on the sand beach; two or three ships at a distance.

16. The same scene reproduced.

Of Mr. G. H.

17. The steeple of St. Paul's Church in this city.

18. My office, table and books.

19. The amphi-theatre of the Institute, filled with pupils, and a recent subject on the table.

20. The Washington Monument in Baltimore; a view of the city and surrounding country.

21. Public mesmeric lecture in the Unitarian church, filled by the audience; a gentleman in conversation with a mesmerized lady; (same as No. 4).

22. Professor C. in his study, arm chair, books and writing implements.

23. The Falls of Niagara.

24. A human skull.

25. Dr. B.'s person looked at.

Of Mr. I. J.

26. A Hebrew bible, held in the hand.

27. A "scene" in the House of Representatives at Washington, at night; a storm without and great confusion in the hall; the persons of Mr. Adams, Mr. Stanley, and Governor Pope.

28. The room in which the experiments are made to-day; the description of the room; persons present; how many; who? &c. (Same as No. 9.)

Of Mr. K. L.

29. Ancient church (England); large stone edifice, supported by heavy buttresses; windows arched; square tower; the great western door of remarkable architectural beauty.

30. An old yew tree.

31. Castle close by; front view; a round tower in ruins; a series of remains containing dungeons, &c.; a long low wall extending to a high tower; John of Gaunt's gateway.

32. Bull-baiting; bull fastened with a long rope to a ring set in a large stone; large concourse of people; a man sets a dog on the bull; the bull tosses him in the air; another dog set on and pins the bull.

33. Conical glass furnace; the making of glass.

34. Glass-cutting.

Of Mr. M. N.

35. Mammoth Cave Hotel; company of ladies and gentlemen at supper-table.

36. After supper they visit the cave, the guides bearing lights; they enter; stop to drink at the spring; they proceed along the high archway; look at the cottages for invalids; proceed to the river which they can't cross, the boat being lost; on their return diverge to take a view of *Gorin's dome brilliantly lighted.* (Same as No. 6.)

37. Visit to Harrodsburg Springs; arrival; see company promenading on long piazza and on lot; Dr. Graham advances to receive us; we stand on the steps and look at cottages.

38. Then visit the spring through a vista of small trees; looking at pond on right hand.

39. Find gentlemen and ladies at saloon, and receive glass of water from waiter at fountain.

40. Amphi-theatre of Institute; enter by door of students and take a seat fronting Dr. C. lecturing; look at skeletons on right and left; and the Venus and Apollo beyond. (Same as No. 19.)

Of Mr. O. P.

41. A rolling mill in operation, in which I will bring forward the steam engine with its great fly-wheel in motion; the powerful cast iron rolls in full operation, drawing the red-hot bar; the nail machines also in operation.

42. I will imagine myself on board a steam boat approaching one of the locks and dams on the Kentucky river; also whilst in the lock, and the appearance from the deck on opening of the flood-gates, and passing out into the river above.

43. I will present my residence from Walnut street.

44. An interior view, as presented in the hall and parlour.

Of Mr. Q. R.

45. Harrodsburg Springs; the cottages right and left; trees; old hall with its porch; people in it. (Same as No. 37.)

46. Road to the spring; pond on the right. (Same as No. 38.)

47. Water trickling down at the springs; the house over them. (Same as No. 39.)

48. Residence of Col. Thompson; the house; yard; apartments; the family circle; fire; a young lady and gentlemen at a table; the library.

49. Green-house.

50. The anatomical theatre; skeleton; Venus; Apollo; Mannikin; the Professor; the class. (Same as Nos. 19 and 40.)

CLASSIFICATION OF HER ANSWERS.

To facilitate the study of her answers, the committee, in transcribing the whole, have thrown them into two great classes. First, those in which they had more or less conformity to the topics which occupied the attention of the gentlemen in communication with her; second, those in which her answers were almost negative, or, being positive, were, on the whole, foreign from the subjects of thought at the time. The former class, they have subdivided into cases of the first, second, and third degree of conformity, the last embracing the lowest instances of relevant answers. Thus the whole are presented in a regular series, commencing with the strongest and descending to the weakest conformity, until they end in the false and negative.

CLASS I.

Answers in the First degree of Conformity.

No. 27.—Mr. I. J.

Q. Where are we now? A. Seem to be in a room. Q. Large or small? A. Large. Q. Day or night? A. I should

think it was night. Q. Is the room lighted? A. Yes, on one side. Q. What do you see in the room? A. There seem to be persons in the room. Q. Are there many persons? A. Not a great many. Q. What do they seem to be doing? A. Seem to be still, doing nothing, don't see any ladies there. Q. Hear any noise? A. I hear a noise that sounds like water. Q. Look on one of the gentlemen, and tell how he looks. A. He seems to be an old gentlemen, standing. Q. Do you see that gentleman over there? A. He don't seem to be so large as the other, not quite so tall. His hair goes back over his head, his eyes seem to be shut. Q. Hear any noise? A. Noise of persons talking. Q. How are the lights arranged? A. They seem to be arranged on the sides and one large light before us. Q. What else do you see? A. That gentleman seems to be moving his face, don't look very pleasant sometimes; seems to be something white on one arm. Q. Look again and see if you see anything? A. I only see one arm. Q. Is the other arm hid behind his chair? A. He don't seem to have but one arm.

No. 5.—*Mr. C. D.*

Q. What do you see? A. A house, a large house. Q. What peculiarity? A. Columns in front. Q. Many of them? A. A good many, high ones.

No. 38.—*Mr. M. N.*

Q. Where are we now? A. A little elevated, looking off. Q. What do you see? A. Something like water there. Q. Where are we going now? A. Seem up. Q. How are we travelling? A. Should think walking. Q. Is it along a street? A. Not. Q. What objects do you see? A. Trees, large dark things.

No. 17.—*Mr. G. H.*

We'll take a very short walk. Q. Are you fond of looking at pretty things? A. Sometimes. Q. What am I looking at? A. A building. Q. What appearance, high or low? A. High. Q. How is the top? A. High, goes to a point. Q. How many rows of windows? A. Three all round it.

Answers in the Second degree of Conformity.

No. 29.—*Mr. K. L.*

Q. Do you love to travel? A. Yes. Q. Would you like to take a voyage to England? A. Yes. Well! we'll go as both agree. Q. See anything now? A. A building. Q. Large or small? A. Large, high, comes up round on the top; large building, top not in a point. Q. What sort of windows? A. Large, round, large door, one part dark, the light of the door. Q. How many rows of windows? A. Two. Q. What built of? A. Looks like stone, don't know. Q. Look old or new? A. Looks old, round in front.

No. 1.—*Mr. A. B.*

Q. Do you see anything now? A. You seem to have something in your hand. Q. What is it? A. I don't see it distinctly. Well! look closely at it, and then describe it to me. A. It looks like a watch. Q. What sort? A. A gold watch. Q. What face; gold or white? A. White. Q. What do you see on its face? A. Don't see anything. Q. Look close at it, see if you can see the hands. A. No sir, don't see the hands. Q. Would you like to see the hands if you could? A. Yes sir. I see one hand. Q. Can you see what it points to? A. . It points to the figure three. Q. Can you see the other? Are you still trying to distinguish it? No, sir, don't see the other one. Q. Do you see anything else? A. I do not see anything but the watch.

No. 42.—*Mr. O. P.*

I'll present you an interesting scene: I'm showing you a great deal at once. A. Don't seem to be in a room, but standing up on something high and light colored. Q. We'll look off. What is before us? A. Looks like persons. Q. Look again at its extended scenery. A. Seems to be moving along like persons. Q. What else do you see? A. Something like water. Q. Is it calm or disturbed? A. Moving on one side, still on the other. Q. A great deal of it? A. Great deal. Q. Does it look like a lake or pond or ocean or what? A. Like a fall on one side, other see nothing. Q. See water

fall very distinctly? A. Not very. Q. Why call it a fall? A. The water seems to come down. Q. Take your eyes off and look in front and see if you can describe the things. A. Something bright like fire. Q. See if there be any changes; now what do you see? A. Seems to be a dark appearance. Q. See any more distinctly now? A. See persons standing near the bright. Q. We will go further and you must speak of what is now before. Do you perceive anything? A. Something very high, not distinctly. Q. Begin at the foundation low down. A. Dark, an open place there. Q. What looks dark? A. The object. Q. What is it, rock, wood, or mud? A. More like a rock. Q. Going further up, what do you see then. A. Something large, and looks brighter. Q. Describe; is it buildings, trees, or what. A. Hills. Q. Anything on them? A. Some light, some dark.

Answers in the Third degree of Conformity.

No. 20.—*Mr. G. H.*

Q. Will you cross the Alleghany mountains with me? A. Yes. Q. What do you see now? A. A building. Q. Describe it! A. Light colored. Q. Tell all about it! A. Large building, something in front like columns. Q. Is it high or low? A. Not very high nor very low. Q. What do you see as we look from the top? A. Something like water one side. Q. Anything else? A. Something like a hill, high. Q. Anything else? A. Good many buildings, another large building.

No. 32.—*Mr. K. L.*

Q. We'll take something else. Like something to amuse you, won't you? A. Yes. Q. Will you walk to my father's house? A. Yes. Q. What do you see there? A. Water. Q. Anything else? A. Something moving. Q. What does it look like? A. Persons, looks dark, moving, number of persons. Q. See anything among them? A. Something high, of different colors, tall person. Q. See any beasts? A. Dark, looks like some kind of animal. Q. See what the beast is doing! A. Walking, with something over its head, large head. Q. Are they doing anything to it? A. Putting something over

its head that is red. Q. What do you call it? A. Never saw such an animal before. Q. Does it stand still? A. No. Q. Are people looking at it? A. Some people above, looking at it, seem to be upon it. Q. See any more than one animal? A. No sir. Q. Is it pleasing or offensive? A. Looks very well.

No. 12.—*Mr. E. F.*

Q. I see something now that looks light enough to be seen distinctly: I wish you to look at it closely. A. It looks very much like a building: Seems to be dark on one side of us, and light on the other side. Q. Well, what do you see besides? A. I see persons. Q. Are you able to tell what they are doing? A. Persons seem to be standing. Q. Are they standing still or walking about? A. Some seem to be walking about. Q. Can you tell what they are doing? A. Seem standing about something, cannot tell what it is. Seems to be dark. Q. Does it appear to be day or night? A. Day. Q. What else do you see but persons? A. Something above us. Q. What does it look like? A. Seems to be bright. Q. Can you tell me any thing about it? A. No sir, I don't see it distinctly. Q. Can you see any thing else? A. No sir, I don't see any thing else very distinctly, I don't see any thing else there. Q. Can you distinguish among these people any one different from the rest? A. No sir, nothing distinct from the rest; I see something white around them, but dont see any thing else. Q. Do you see any thing else now? A. No sir.

No. 43.—*Mr. O. P.*

Q. Feel as if you were seeing well for me this evening? A. Tolerable. Could'nt see at all for the gentleman before. Q. I'll give you another object—see any thing? Something moving. Q. Tell all about it. A. See something like a house. Q. What about it like a house? A. See something like a door —open like a door—not a very pretty looking house—something on top. Q. Large or small house? A. Large. Q. What colour? A. Can't tell, not white, not red, kind of dark colour. Q. Is it as long as it is high? A. Longer. Q. Would

you like to enter it? A. Yes. Q. How can we get in? A. Have to go in at a small place by going round.

No. 2.—Mr. I. J.

Q. Do you see any thing now? A. See a building. Q. Have I any thing in my hand? A. I see something white. Q. Any other colour? A. I see something black. Q. Any other colour? A. Something red. Q. Look at it good now. A. It looks like a book. Q. Think it's a book? A. Looks like it

CLASS II.

FALSE OR NEGATIVE ANSWERS.

No. 2—Mr. A. B.

Q. Well now look closely—Do you see any thing? A. I see something that looks bright. Q. Bright like what? A. I don't know what it is, looks bright. Q. Do you see any person? A. Yes sir. Q. Do you know the person? A. I've seen the person before, I dont know him very well. Q. Are you still looking at that person? Think you know who that person is? A. Dont know that person's name. Q. Lady or gentleman? A. A gentleman. Q. Do you see any other person? A. Yes sir, I see another person. Q. Do you know that person? A. No sir. Q. What sort of place do you seem to be in? A. A room. Q. Do you see any other person but the one? A. I see a lady. Q. Tell me who that lady is, can't you tell the lady's name? Q. Do you see her dress? A. Dark colour. Q. Do you see the lady more distinctly than you did? A. Yes sir. Q. Think now that you know her? A. I think I know her. Q. Think you know her name? A. No sir. Q. Do you see her distinctly enough to be sure you dont know her name? A. Yes sir. Q. Do you see any other person besides that lady? A. I see a gentleman. Q. Do you see him distinctly? A. No sir, not distinctly. Q. Do you see him more distinctly than before? A. Seems to be behind something, cant see him distinctly. Q. Do you see any thing else there? A. No sir. Q. Do you see any other people

there? A. No. sir. Q. Will you go to another place? A. If you wish to go.

No. 3.—*Same gentleman.*

Q. Do you see any thing now? A. Seem to be standing on something. Q. Please tell me if you see any thing or person there! A. I see a person. Q. Do you see the person distinctly. A. I see a gentleman. Q. Did you ever see that gentleman before? A. Yes sir. Q. Do you think you know him? A. No sir. Q. What does he seem to be doing? A. I don't see that he is doing any thing. Q. Do you see any other person? A. No sir. Q. Look closely and see if you can? A. No sir. Q. Do you see the same gentleman? A. Yes sir. Q. Sitting or standing? A. Standing. Q. Do you see any thing else? A. I see something that seems to be on the Wall. Q. I'll look at the object, and if you can see any thing tell me. A. I see something that seems to be moving. Q. Do you see any thing else? A. I see something that looks like a painting. Q. Do you see that person that you saw a while ago? A. No sir. Q. Do you see any one? A. I see a gentleman. Q. Do you know him? A. No sir. Q. Do you see him distinctly? A. No sir.

No. 4.—*Same gentleman.*

Q. Do you see any thing before your mind now? A. I see something like water. Q. Please to look closely at it, and tell me if you see any thing else? A. I see something like a room there. Q. Any body in it? A. There's a person in there. Q. What does the person seem to be doing? A. There seems to be something the matter with the person. Q. A gentleman or lady? A. A gentleman. Q. Look closely at him, and see what he's doing. A. I don't know what he's doing. Q. Do you know him? A. I do not. Q. Do you observe any other object. A. No sir.

No. 6.—*Mr. C. D.*

Q. What do you see? A. In a room. Q. A large one? A. Yes, a number of persons. Q. Sitting or standing? A. Sitting; one now standing. Q. Are we still or walking? A.

Still. Q. Is it light or dark? A. Light in back part more than in front. Q. What do you see? A. Person seems to be laying down. Q. Is the room dark? A. Dark at that end. Q. What appearance now? A. I don't see anything; dark. Q. How is it now? A. It seems to be light. Q. See anything but a room? A. Not in a room now. Q. See anything? A. Seem to stand on something bright. Q. Quite high? A. Yes. Q. Standing still or going? A. Not in a room; seem to be walking. Q. Now see anything? A. Something off there like water. Q. Are we near it? A. Yes.

Nos. 7 *and* 8.—*Same Gentleman.*

Q. Is my dress changed any? A. Long dark dress. Q. What do you see? A. Something like a light. Q. Where are we? A. Seem to go under some long place. Q. Anybody with us? A. Yes, but looks dark. Q. What are they doing? A. Kneeling down. Q. Look again; any difference? A. No sir. Q. Let's return. What way are we returning to Louisville? A. By land, not water. Q. What conveyance? A. In something goes fast. Q. How does the road seem. A. Small, narrow, dark on sides.

No. 9.—*Same Gentleman.*

Q. Returned—where are we now? A. In a room. Q. Large or small? A. Large. Q. Any persons? A. Yes. Q. Many? A. Don't know. Q. Still or moving? A. Moving and talking. Q. See any person you ever saw before? A. Yes, the gentleman who was talking with me just now. Q. Any ladies? A. No.

No. 10—*Same Gentleman.*

Q. Anything in my hand? A. Yes, a book. Q. What kind? A. A dark one. Q. Large or small? A. Small. Q. Its color? A. Dark. Q. Any ladies in the room? A. No ladies, only gentlemen.

No. 11.—*Mr. E. F.*

Q. Are you tired of sitting up? A. No sir. Q. How long since you came to Louisville? A. I don't know. Q. Trav-

elled about it much? (No reply). Q. Do you prefer the city or the country? A. If the person likes it best I do. Q. How do you like the scene before us now? A. Don't see anything before me? Q. How do you like the appearance now? A. It seems to be dark around us. I do not see anything distinctly. Q. Which of those things before us now do you think most beautiful? A. I don't see anything at all. It appears to be dark. It don't seem to be in a room. Q. Can you distinguish nothing? A. No sir. Q. What seems to be the reason? A. I don't know sir. Q. Is it not light enough for you to see the difference between land and water? A. I can't see distinctly. Q. Does not that look like water? A. It doesn't look like water.

No. 13.—*Same Gentleman; No.* 12 *repeated.*

Q. Do you observe anything now? A. No sir. Q. Can you tell where we are? A. We seem to be in a room. Q. What do you see? A. Nothing; my mind seems to be dark; there is nothing before it. Q. Do you see no person in the room? A. No sir. Q. Do you see no furniture? A. No sir. Q. Well! look attentively and see if you can't discover something. Q. What kind of a room does it seem to be? A. A very long one. Q. Do you see nothing in it? A. Yes sir; a person. Q. What does he seem to be doing? A. He seems to be sitting down. Q. Do you see nothing else in the room but the person? A. There are other things in the room, but I don't see them distinctly. Q. Well! examine them carefully. Do you see no article at all? A. I see something in the room that seems to be large and dark. I can't see it plainly. Q. Do you see anything on the walls? A. I don't see the walls. Q. Why do you think it is a room then? A. It seems to be more like a room than anything else. Q. Do you see anything like a carpet? A. I don't know what you mean by a carpet. The floor seems to be hard. Q. Do you see any chairs? A. No sir. Q. Do you see any stove or fire place? A. No sir. Don't see anything that looks like fire in the room. Q. Do you see more than one person yet? A. No sir, I see only one person.

No. 14.—*Same Gentleman; being a repetition of the last.*

Knows the gentleman. Q. How do you like the appearance of what we are looking at now? A. We seem to be out of doors. Q. What do you see before us now? A. It seems to be very high. Q. What does it seem to be? A. I don't see it distinctly; there seem to be trees there. Q. What do you see now? A. I see something moving. Q. What do you see now? A. Something before us that seems attached to something—different colors on it. Q. What do you see now, anything different from the last? A. No sir; I see that same thing. Q. What do you see now? A. I see persons. Q. What do you see now? A. I see something that looks like water.

No. 15.—*Same Gentleman.*

Q. What do you see now? A. I don't see anything now. Q. Do you see anything now? Do you not see any part of it now? A. No sir. Q. Nor now? A. No sir. I can't see anything. Q. Do you observe anything now? A. I see something of different colors; I don't know what it is. Q. What do you see now? A. I don't see anything at all. It seems to be dark. Q. Do you hear anything? A. No sir. Q. Do you see anything now? A. No sir, I don't see anything at all. Q. I think you can't fail to see whether it is night or day, the thing now before my mind. A. I see nothing before my mind. Q. Well! what do you see now? A. I don't see anything. Q. What seems to be the reason that you don't see anything now? A. I don't know sir.

No. 16.—*Same Gentleman; the last repeated.*

Q. Do you observe anything now? A. No sir. Q. What do you observe now? A. I don't see anything at all. Q. Do you see anything now? A. No sir.

No. 18.—*Mr. G. H.*

Let's go somewhere else. Q. What do you see now? A. Looking into a room. Q. What do you see? A. Something like a painting. Q. What are you now looking at? A. Something; one side looking like a figure. Q. What sort? A. A

person. Q. What am I now looking at in the room? A. Something dark. Q. More than one? A. Yes, many. Q. Anything like them before? A. One looks like a head.

No. 19.—*Same Gentleman.*

Let us get out of this little room; I'm tired. Q. What looking at now? A. In a room. Q. Is it larger than the other? A. A different kind of room. Q. How arranged? A. Nothing in the centre; many around. Q. Describe them. A. Don't see anything distinctly. Q. Look again. A. See a number. Q. What like? A. Lower parts white; seem to be round; nothing like them before. Q. Look again in this big room? A. Persons; a great many. Q. Young or old? A. Young and some old. Q. Any ladies present? A. See only two. Q. What at this moment? A. Something dark going round. Q. Anything on what is going round? A. Don't know. Q. Describe it. A. Don't see it distinctly. Something bright projecting from the side. Q. What is on the thing moving round? A. Can't see it distinctly.

No. 21.—*Same Gentleman.*

Let us get back over the mountains. Q. What do you see now? A. Seem to be in a room, large. Q. Ever here before? A. Yes. Q. See a number of things? A. Yes. Q. What is most interesting? A. Don't see anything—something like a painting. Q. What else? A. No particular object. Q. Anything now? A. A person standing by something. Q. Gentleman or lady? A. Gentleman. Q. What is he standing by? A. Hand resting on something, light and bright at sides. Q. What are the persons doing? A. Sitting down. Q. What are they doing? A. Can't see. Q. Getting tired of this little room? A. It's not very small. Q. Any more persons? A. See but one. Q. Ever been here before? A. No; I thought I had, but think I have not.

No. 22.—*Same Gentleman.*

Q. Let us walk a little. A. Yes. Q. What do you see? A. Nothing. Q. Try again. A. See nothing at all. Q. Tired of me, are you not? A. Seen so much. Q. What do you

see? A. Some persons in a room, light, some noise. Q. What is most prominent? A. Something standing in the room, with something over it. Q. Look again, something worthy of your attention. A. Don't know what.

No. 24.—*Same Gentleman.*

Q. What am I looking at? A. Something like a house. Q. What is it? A. Don't see it distinctly; seems high. Q. Look again; what like? A. Don't know; don't see it distinctly. Q. Have you seen it before? A. Yes—like it? Q. Look again. A. Don't know.

No. 25.—*Same Gentleman.*

Let us get off from that object. Q. Are you tired? A. Yes, of looking. Q. I'll take you but to one object more, and not far off. Q. What am I looking at? A. Trying to think. Q. Look again. A. Seem to be standing in a small place. Q. What object? A. Something moving. Q. Look again. A. Stationary now. Q. What sort of object? A. Large and of different colors. Q. Ever see it before? A. No.

No. 28.—*Mr. I. J.*

Q. Now where are we? A. Out of doors. Q. What do you see? A. A building there. Q. Tell me what you see, what sort of a building? A. Don't see it distinctly. Q. see any people? A. A number of people seem to be standing upon something.

Nos. 30 *and* 31.—*Mr. K. L.*

We'll turn our backs and look at something else. Q. Now what do you see? A. Some persons there. Q. What does it look like, a building, or what? A. Open on the sides. Q. Well, we'll walk a little further. What do you see? A. Something like trees. Q. Any thing above the trees? A. Something never saw before; looks bright. Q. What to the left hand? A. A low building. Q. What to the right? A. Something like water. Q. To the extreme right? A. Looks dark. Q. Does it look large or small? A. Large. Q. Look like a building? A. Does not, never saw any thing like it.

Large, dark, open in front, level on top, looks smaller on top, but don't know. Q. See any hill or plain? A. A hill to the right.

No. 34.—*Same Gentleman.*

Well! we'll go into another part of the building. Q. What do you see? A. Something dark moving round. Q. See any persons? A. Seem to be standing, hold something in their hands. Q. How are they dressed? A. Light colored dresses. Q. Anything on their heads? A. Something dark, long, turns down. Q. What in their hands? A. Can't see distinctly, something colored. Q. How do you like the jaunt to England—a pleasant voyage? A. Yes. Q. Suppose we return to the United States. A. Yes.

No. 35.—*Mr. M. N.*

Let us make an excursion and view some objects. Q. What are we approaching, what do you see? A. Some persons. Q. Where are we now? A. Seem to be standing on something now. Q. What do you see around? A. Seems to be a great many things, nothing distinctly.

No. 36.—*Same Gentlemen.*

Let us move a little further. Q. Where are we now? A. Seem to be in a room. Q. We're still moving, where are we now? A. Seem standing, now, before something. Q. What do you particularly observe? A. Something seems to be hanging up. Q. Where are we now? A. Go so fast I can't say. Q. What do you see now? A. Don't see distinctly, looks bright to me. Q. Where are we now? A. Seems to be a figure there of something, we are standing. Q. What do you see now? A. Don't see anything distinctly.

No. 37.—*Same Gentleman.*

Q. You're tired of this excursion, are you not? A. No, but I can't see distinctly. Q. What do you see now? A. A building. Q. What sort? A. A dark colored. Q. Is any thing coming towards us? A. Yes, something dark.

No. 39.—*Same Gentleman.*

Q. Where are we now? A. Standing in a small place, number of things round us. Q. What do you particularly remark, what's that in the middle of the place? A. Seems to be round. Q. What does it look like? A. Don't know what, something, a kind of animal. Q. What is that doing, in the middle of the place where we are? A. Seems to be moving round.

No. 40.—*Same Gentleman.*

We'll go to another place which will interest you very much. Q. What do you see before you? A. Seem to be in a large place, something round before us. Q. What is it? A. Something like a building, don't think it is. Q. Where are we now? A. Looks like a room now.. Q. Where are we now? A. Seem to be standing in some place. Q. What is right before you there? A. Don't know, don't see it distinctly. Q. Look farther! A. Seems to be high. Q. A little beyond, a few steps, what do you see? A. Seems to be moving down.

No. 41.—*Mr. O. P.*

Q. In what direction are we moving? A. Can't tell. Q. Are we going up or down? A. Up. Q. What is the surrounding scenery? Tell us what you see in looking round? A. See something that seems to be moving. Q. What sort of motion? A. I can't describe, seems to go up. Q. Is it all in one direction? A. sometimes a little down and then moves off. Q. Is there any other object? A. Something seems to be moving round. Q. Any interest about it? A. Moving round with something bright about it. Q. Look beyond and describe! A. Something like a house. Q. I want to bring an object of a clear and distinct kind, try to see it. A. Something light colored, seems very pretty, rather large, not very high, something in the centre. Q. Describe that in the centre! A. Seems to be rather tall, comes out rounding on the sides, singular, never saw it before. Q. Any peculiar color? A. Two or three, blue, more like that than any other.

Q. Are we in a house or not? A. Not in a house. Q. How is it? A. Something over us, not a house. Q. Well, we'll change to another part, tell me what you see, see anything? A. See different colors, and something at the side of us like a dog. Q. Look just before you, rather look low than high, and describe the object. A. Seems to be long. Q. Do you see any persons? A. One person, standing on that thing. Q. Moving or stationary? A. Still, and something in his hand, seems to hold it out left side. Q. Anything on the right? A. Something high. Q. Any men about them? A. Three. Q. Using their arms? A. One hanging down, the other hand raising it up.

No. 44.—*Same Gentleman.*

Let us go in and first examine the floor. A. It is hard, not like wood. Q. What like? A. Stone. Q. What color? A. Brown. Q. All of one color or more? A. Color that looks white. Q. Tell on the right hand wall what? A. Something hanging up like figures. Q. What on the left? A. Goes in and looks open. Let us enter the right-hand apartment, and then look at the floor and tell me what it looks like? A. Seems to be white. Q. Cast your eye all over and describe the room; what is there worth speaking of? A. Something on the side that sticks out, left-hand side, something bright on the right-hand side that hangs down. Q. I'm fixing my mind on a particular matter, do you see anything distinctly? A. Something before us of different colors. Q. Tell us the colors. A. Seems white, and like a red and a dark, a dark color, not exactly red. Q. What does it look like? What intended for? A. Don't know what it is. Q. We'll go further on, we've now another object, tell me what it is? A. Seems to be a figure of something. Q. Is it a male or a female? A. A female. Q. When you speak of a figure, do you mean a painting or a piece of statuary? A. A statue. Q. Now another object, do you perceive it? A. Not distinctly. Q. See it any better? A. Something over the top, looks like a painting. Q. Look smooth or rough? A. Rough. We'll go further and see another object, do you see it? A. Yes.

Q. What is it like? A. I do not understand. Q. Are you tired? A. No, but don't see distinctly. Q. Something before me quite interesting, do you perceive it? A. Seem to be in a room now.

No. 45.—*Mr. Q. R.*

Q. Do you see anything before you? A. Don't seem to be in a room. Q. Do you see anything before or around you? A. Something high, but not a building. Q. What seems before you now? A. See some person.

No. 46.—*Same Gentleman.*

Q. Let us walk further; see anything now? What does it seem to be? A. Can't see distinctly. Q. Appear to be water? A. See water there. Q. Anything about it? A. That side something above the water of different colors?

No. 47.—*Same Gentleman.*

We have a pleasant walk before us now. Q. Do you see anything pleasant? A. Going into a small place. Dark there in the front part. Q. See anything there? A. Gone into a small place, dark; seem to be looking at something. Q. Can you describe it? A. Seems to be something round. Q. Can you see what is in it? A. Dark, round sides, seems to be bright.

Nos. 48 *and* 49.—*Same Gentleman.*

Q. We'll walk again; a new scene. A. Yes. Q. We have a pleasant prospect now; do you see anything? A. Something like water; see a building. Q. What's its appearance? A. Rather singular form, something goes round. Q. Do you see the water now? A. See water. Q. What do you see? A. Something there; think they are persons—two. Q. Where are we now? A. Like a room, long. Q. What do you see? A. Something bright above, going down before. Q. What now? A. Don't see that distinctly. Should think we are in a room. Q. Can't you see? Look if there be anything before us? A. Something long like a table, high, raised up; something white over it. Q. Do you hear anything? A.

Like striking and talking. Q. What kind of noise? A. Loud. Q. See anything now? A. Something like a man. Q. See anything? A. Something that side of the room seems to be red. Q. What does it look like now? A. Seems to be long. Q. We'll change and go out of this room; see anything before us now? A. No sir, don't see it distinctly. Something seems to be hanging up there. Q. See something now? A. See something white there going across; see persons there. Q. What are they doing. A. Seem to be standing; now stooping down.

No. 50.—Same Gentleman.

We shall not be able to walk long this evening; must change now and go to another scene: Q. See anything now? A. Seem to be going up—walk. Q. Have you ever been here before? A. Yes, I think I have; seem to be still now. Q. What strikes you now? A. Something very high; seems to be noise there; moving; building there the other side. Q. See anything striking beiore you now? A. Something; looks very singular. Q. What does it look like now? A. Seems to be something painted. Q. See more than one before you? A. Yes, three not alike. Q. What have you before you now? (No answer). Q. Same as before. A. Not distinctly; something seems to be standing up. Q. What does it look like? A. Figure of something. Q. What? A. Like a person; top part seems large; something else about it; seems to be something round it. Q. Do you like to look at it? A. Is pleasant; something over the top that don't look pleasant. Q. What is your eye directed to now? A. Should think it a person. Q. Appear to be moving or still? A. Standing still; sometimes moving. Q. See it distinctly? A. See the person distinctly; something over the head of it. Q. See anything else? A. No sir. Q. Look now and see if you recognize anything. A. Don't seem to be in a room. Q. Where do we seem to be? A. Seem to be standing in a place; something over us. Q. What seems before us? A. Seems dark. Q. Seem to be moving? A. Moving; dark. Q, See anything now? A.

Something on the side of it, bright, dark round it. Q. See anything distinctly now? A. No sir, nothing now.

MANNER, LANGUAGE AND STYLE OF HER ANSWERS.

The record of questions and answers submitted to the committee has been carefully examined, and the first remark they have to make upon it, is that the somniloquist seems to have been silent except when she was addressed, as they no where find a single observation made by her, but in reply to a question, or in consequence of a remark made by the gentleman in conversation with her. This taciturnity shows itself still further, in the brevity of her answers, which were generally limited to the enunciation of a single idea, or conception of the mind, which in every instance, except two or three, where a leading question was put in relation to sound, involved visual perceptions only. In comparing or uniting her answers on the same topic, it is obvious, that she seldom had a clear conception of it; and they scarcely find any evidence of her perceiving the relations of the different members of any group. Nearly one hundred of her replies were entirely negative; in quite as many more, she saw something, but too indistinctly to give any account of it; in a great many cases, her enunciation of an object was prefaced by the expressions, "looks like;" "resembles;" "seems like;" "appears as if;" and "seems to be;" when she answered in a more confident manner, the reply does not in general extend beyond a single quality or characteristic of the object, such as color, form, position or motion, often imperfectly or partially expressed and scarcely ever referred to an absolute standard. Thus her vocabulary is barren, and her style eminently vague and obscure. In a great number of cases her answers, of course, are susceptible of various applications and interpretations; and it is obvious to the committee, that in many instances, she herself did not make an application of the qualities or characteristics which she announced to any particular object. The committee have not been able to discover any connexion between the distinctness of her answers and their truth, for

some of the most obscure and even negative, relate to the objects which were really present in the minds of the gentlemen conversing with her, or actually before their eyes; while some of the most explicit, refer to other objects than those which occupied their attention. The catalogue of subjects exhibited in the analysis just given, must be admitted to present a great variety, but there is by no means a corresponding variety in her answers. On the contrary, they are abundant in set phrases. Among these the committee find, and may cite—"the figure of something;" "a small place;" "something moving;" "something moving round;" "something that looks dark;" "something white;" "something painted," or of "different colors;" "something that looks bright;" the last of which the committee have counted fourteen or fifteen times, while many of the others recur eight or ten times. "A person" or "persons" occurs about thirty times, generally when they were present, but did not make more impressive parts of the group than things; a "house," "building," or "room," occurs twenty-three or twenty-four times, seventeen of which, it should be stated, correctly, the remainder erroneously; and in a few instances she made no allusion to either, when it should have been done. She announced water four times when it was present, four times when it was absent, and failed to indicate it four times, when it made a part of the landscape. Once she saw it after a leading question, twice failed to see it under a leading question, and once under a leading question she heard it. In all cases, except one or two, she was confused and uncertain as to its appearance and extent; which, however, was the case with almost every other object. Her answers generally presented something which could be applied to familiar scenes and objects, but not to those of a remote and uncommon kind, in which houses, furniture, and persons were not the principal matters. Hence she said nothing which was applicable to the boat-scene on the Lakes, the excursion on the Ohio, the walk on Santa Rosa Island, or the descents into the Mammoth Cave.

REPETITION OF THE SAME SCENES.

This accidentally occurred with several of them. Thus, No. 19 was presented by three different gentlemen; Nos. 37, 38 and 39 by two; No. 4 by two; No. 9 by two; No. 12 three times by the same gentleman, and No. 15 twice by the same; affording an opportunity of comparing her accounts to different gentlemen, or to the same at different times, of no less than eight scenes. A reference to the numerical catalogue will afford an index to these cases, the study of which is vitally connected with our inquiry; for while identity of answers, on the same scenes, to different gentlemen, would establish the reality of their mental influence on the somniloquist, diversity, would of course, go to prove it an illusion. The committee have carefully compared these answers, but do not feel it their duty to state the conclusions to which they have come.

MODE AND EFFECT OF QUESTIONING.

Although the members of the association had subscribed a promise, not to put leading questions, until the influence of others had been exhausted, still the committee have discovered that most of the members, no doubt unintentionally and unconsciously, did put questions, calculated, not merely to elicit an expression of the state of mind of the somniloquist, but to modify it. Thus, when she answered—"a watch," "a book" or "a building," she was questioned concerning its form, size, color and other characteristics, and of course gave some account of it, which was as full when that was not the object which the gentleman had sought, mentally, to present to her, as when it was. But it was especially in reference to change of object, or locality, that this mode of interrogation occurred. Thus, no less than forty questions or remarks appear in the record, which could not fail to suggest such changes.

The committee wish to refrain from all speculations on the influence of such interrogatories and remarks; but they may

be allowed to state as a fact established by the record itself, that in the cases in which replies of the most positive kind, whether true or false, were given, this mode of questioning was most apparent; while answers of a negative character were oftenest returned to questions, which could suggest nothing to the mind of the somniloquist or those around her.

All which is respectfully submitted.

DAN. DRAKE,
L. P. YANDELL,
Committee.

Louisville, February 8, 1844.

ART. II.—*Cases of Dyspepsia successfully treated on the purgative plan.* By WILLIAM M. YANDELL, M.D., of Benton, Mississippi.

The cases of Dyspepsia about to be described are clearly referrible to a miasmatic origin. In this form of the complaint, the liver is disordered, frequently enlarged, generally more or less tender to the touch. The secretion of the stomach is deficient or perverted. It follows badly cured cases of fever, or attacks persons living in malarious districts. Diet in this form of dyspepsia is of little avail. Exercise moderates the symptoms, but does not subdue them. Tonics are mischievous. The countenance of the patient is sallow; his appetite is often good, or even excessive. He has headache, constipation, furred tongue, cardialgia, peevish temper, or gloomy; and as it advances, the heart becomes troubled with palpitations, and the nervous system falls into paralysis: or if there be a predisposition to tubercles, the patient falls a victim to pulmonary consumption.

CASE I.—Mrs. A., aged about 23 years, was brought to my house in February, 1839, in a carriage from a distance of 40 miles. She had been confined to her room for four years, most of the time unable to walk across the room without as-

sistance. Her symptoms were as follows: skin very sallow, dry and constricted, with alternate flushings and chilliness, burning in the hands and feet, pain in the head, eyes of a muddy red complexion, with an unnatural fierceness; wakefulness; a dry cough; pain in the breast, low down, and extending round to the scapula; variable appetite, and all substances taken, even cold water gave pain; palpitation of the heart; constipation; pain in the region of the kidneys.

I thought I saw in these symptoms a call for the use of remedies that would promote the secretion of the liver; accordingly I gave her 40 grains of calomel. In the morning, no action from it. Gave her six pills of scammony, aloes and rhubarb. The effect was two scanty, rather dark colored discharges.

The night following, I gave her 80 grains of calomel, and in the morning eight pills of the above composition. Discharges were five or six in number, consistent and of dark color. This plan was kept up—calomel at night, and the pills in the morning—for eight days, at the end of which time her mouth had become slightly sore. The calomel was then laid aside, and the pills continued, which maintained the action of the bowels, but not so freely. Her gums were well in a few days, and she was put upon the use of pills of cal., al. and rhu., each two grains, every night, to be taken in doses of from six to twelve. This course was persevered in for seven weeks, the pills being repeated in the morning, if they failed to act sufficiently. At the end of this period, her discharges had become natural, her digestion good, and her strength greatly improved, insomuch that she was able to ride home on horseback in more comfort than she travelled to my house in a carriage. In two weeks after she began to take the pills her rest at night became comfortable. In this case I tried tonics, but found them to aggravate all the symptoms. Coffee was one of the most disturbing articles that she could use. Besides the pills, she took carb. sod. or potas. when troubled with acidity; and except this, she relied upon the pills alone. She returned home in seven weeks, with pills to be taken *pro re nata*, and

under their use continued to improve daily. I saw her in the fall, seven months afterwards, and she was then enjoying excellent health, with the fresh complexion of a girl, and weighing 140 pounds.

Case II.—I was requested to visit Mrs. L., aged about 22, in March, 1839. Her health had been declining for a year or two, about which time she had an attack of bilious fever. I found her greatly depressed in spirits, complaining of vertigo and head-ache, palpitation of the heart, acidity, sleeplessness, dry cough, pain in the lower part of the chest, extending towards the scapula; enlarged spleen; dry skin, of sallow appearance. At times she felt pain in the region of the kidneys. Her tongue was slightly coated, bowels costive, or the reverse.

My first prescription was calmel 25 grains, to be followed next morning with pills of al., scam. and rhu. She objected to both remedies, alleging that calomel always salivated her, and that she could not swallow pills. I explained my purpose in administering these medicines to be, to bring away dark-colored passages, and assured her that with this result, she would find herself greatly relieved. Finally she consented, and the calomel was taken at night, followed by powders of the same ingredients as the pills next morning. As she feared, a slight soreness of her gums was the consequence of taking the calomel. She persevered in the use of the powders for some time with manifest advantage: but they were so disagreeable that she discontinued taking them too soon, and the consequence was a return of the most distressing symptoms, particularly of the pain in the lumbar region. Another physician was called to her in my absence, who pronounced her case a disease of the uterus, for which he put her upon a course of medicine. Having given the remedies for the supposed uterine disease as full a trial as the physician himself deemed necessary, and having continued to decline until her friends gave her up to die, her husband prevailed on her to return once more to the use of the powders. They brought off dark discharges, and she improved in health, until she was

able to walk about the house, and in this state passed through the winter. As warm weather returned, she began to decline again, and I was once more requested to visit her. My prescription was the same as at my first visit: to-wit, 30 grains calomel, to be worked off by the powders. The result was, as in the first instance, a slight ptyalism, but much subsequent relief, as she voided a large quantity of dark, vitiated matter from the bowels.

She did not long persevere, however, in the use of the powders, the dose necessary to act being large, and the medicine exceedingly nauseous to her; and when she discontinued, the symptoms of her old malady reappeared. In a short time after abandoning them, she was confined to her bed, and became so much emaciated that her weight was only 68 pounds. For six weeks she was not able even to turn herself in bed. After returning to the powders again, which she did as the last resource, she became able to sit up in bed, in the evening, after her bowels had been moved in the morning; for she entered upon the use of the purgative when her debility was at its height. The purgative plan was kept up for three months. When the powders failed to act, I gave her a little calomel or blue pill to excite the liver gently, and I was interested to observe that the oftener the mercurial was given, the slighter was the ptyalism induced by it, until this effect ceased altogether. At the end of three months, she was able to leave her room, and by an occasional dose of the powders through the winter, her health progressively improved. She is now (January, 1842), in excellent health, having increased in weight from 68 to 118 pounds.

In this case, I tried tonics and stimulants, but found that they invariably aggravated the symptoms. Blisters were also tried, but with no better results. For six weeks the patient lived on gruel alone. Carbonate of soda acted benignly when acid was present in the stomach, relieving the flatulence which was more troublesome than ever I saw it. The alkalis are valuable remedies for this indication, and harmonize well with the purgatives.

I give calomel more freely in dyspepsia than is recommended by authors, and I have found it a most efficient remedy. It promotes the free secretion of the liver, upon the want of which dyspepsia often depends. I have never salivated a patient severely, and have seen the soreness of the gums disappear whilst the patient was taking pills of cal., al. and rhu. every night. My plan is to administer a full dose—from 12 to 20 grains generally in the beginning, and to follow it with the same article, combined with the dry vegetable purgatives, on the next evening, and to continue the purgatives until the patient is cured. If anything be required to aid the calomel in its action, I prescribe aloes, rhubarb and scammony. According to the view of the disease which I have adopted, the cure depends upon the free action of the liver, and this is maintained by the vegetable cathartics after it has been fully established by the mercurial. It may become necessary occasionally to add a little calomel or blue pill to the other purgatives, should the bilious secretion become languid.

Louisville, 1844.

ART. III.—*Extirpation of a large part of the Superior Maxillary Bone, on account of a Schirrous Tumour developed in the Antrum.* By Dr. F. G. DEL VALLE. Translated from the Spanish by the Junior Editor.*

Seraphina N., negress, 18 years old, field-laborer, of common stature, lymphatico-nervous temperament, entered the Hospital of St. Francis, in Havana, towards the end of August, 1842, with a tumor occupying all the left side of the face, covered by the common integuments which were much distended but healthy. The tumor was as large as a common orange, filled the whole mouth, and viewed from the side, projected forwards an inch beyond the upper lip. Anteriorly it was about three inches in diameter, with a cor-

* We are indebted to the *Repertorio Medico-Habanero* for this article. C.

responding circumference, which was ulcerated and contained three incisor teeth. The tumor extended along the alveolar process, as far as the right canine tooth, and backwards to the posterior part of the palatal arch on the left side, giving room only for the last two molar teeth, which were firm and healthy, and leaving free the palate bone of the same side, and a small portion of the maxillary with which it articulates. Superiorly, it rested below the cheek-bone (*pómulo*), and four lines below the orbit, in the direction of the nose, projecting outwards in an extraordinary manner, and turning upwards and to the right, giving a most disagreeable and frightful aspect to the countenance. The tumor was hard, one part of it a deep red color, the other of the natural color of the mucous membrane of the mouth; it was covered with a multitude of tortuous vessels in a dilated and varicose state, it did not yield upon pressure, the pain was not very severe, and nothing issued from the ulcerated portion. The tonsils and cervical glands remained healthy, as well as the tongue and adjacent parts; mastication was very difficult and speech almost unintelligible.

An inquiry into all the circumstances connected with the appearance and development of the disease, showed only that two years previously the patient had received a kick from an ox on the side of the face, which no doubt fractured the superior maxillary bone—no other cause could be discovered. In view of the time that had elapsed, the symptoms present, and the visible organic lesion, I did not hesitate to class it as a schirrous tumor and probably an osteo-sarcoma of the maxillary sinus. The only remedy, therefore, was extirpation, which would involve the greater portion of the maxillary bone, and endanger the individual's life. A consultation was held, at which were present Professors Gutierrez, Castro, Jorrin, Bodman, Pinelo, and A. Valdes. Various reflections were made concerning the nature of the tumor; some suspected it to be aneurismatic fungus, and proposed tying the carotid previous to the operation. A majority decided that this was unnecessary, since there would be no difficulty in controlling the hemor-

rhage during the operation; all agreed as to the absolute necessity of extirpation, without which the death of the patient was inevitable.

On the appointed day, everything being in readiness, I proceeded to remove the tumor, in the presence of a number of Professors and students of the school of medicine. The patient being placed on a firm seat, with the necessary light, the arms and legs bound for greater security, and the head resting on the breast of an assistant, I began by making a curved incision which divided the integuments and muscles of the face, from a point in the zygomatic arch, an inch from the outer angle of the eye, to the commissure of the lips; three arteries presented themselves, and were secured by Dr. Gutierrez. I then dissected up the cheek as far as the orbit, and anteriorly, in order to display the tumor; lifted the nose upwards, separating it from the alveolar border; applied the saw horizontally to the inferior part of the malar bone; then with a chisel and mallet divided the ascending process of the superior maxillary, at its junction with the nasal and near the ungual bones; next the canine tooth of the right side was extracted, the nasal cartilage and the vomer were cut with sharp scissors, and with the forceps of Liston the alveolar arch was divided at a single stroke as far as the nasal fossae. Afterwards Dr. Gutierrez, with the same forceps applied before the second molar, cut into the maxillary sinus; the palatal arch was then divided by means of a strong curved knife, cutting from within outwards. The tumor being now circumscribed and movable was lifted out with very little force, leaving only many portions of lardaceous nature adhering to the internal and posterior surface of the antrum, and to the left turbinated bones; these portions were all separated by means of the fingers and instruments, during which it became necessary to extract the last two molars which had been suffered to remain, as the alveolar border where they stood was evidently diseased. The arterial hemorrhage was restrained by means of torsion, and lotions of cold water constantly applied, with-

out resorting to the actual cautery which was in readiness. After waiting a moment, for the assistants to assure themselves that the morbid mass was removed and the vessels secured, the soft parts were brought down, and retained by three interrupted and one twisted suture, assisted by strips of adhesive plaster, dry lint internally, cribriform compresses, bandages, &c.; the patient was then carried to bed, and ordered a slightly anodyne draught, with tepid water and sugar as the only aliment.

On the third day there was fever, slight coma, profuse ptyalism, with fetor, and pain of the face: the anodyne was suspended, warm pediluvia and sinapisms were directed, with sweetened water for nourishment. The patient continued in the same state until the fifth day, when diarrhœa supervened, apparently in consequence of the water drank. An opiate was ordered with toast water in small portions every four hours. The dressings were now removed for the first time, and the wound presented a good aspect.

Internally it was washed with barley-water, slightly acidulated, and then dressed with dry lint; externally it was covered with a cribriform compress lightly spread with cerate. On the sixth day the patient was free from fever and headache; on the ninth two of the pins were removed. On the fifteenth the external wound was perfectly united, the three ligatures on the arteries still remaining; the sutures were all removed, and it was dressed with dry lint. The inflammation followed its usual course internally; some portions of the soft parts, contused during the operation, became sphacelated and were removed; tumefaction subsided after exfoliation of small pieces of bone; and finally on the twentieth day, the entire surface was free, and covered with granulations, which required to be touched subsequently with the nitrate of silver. Acidulated barley-water, weak solutions of the sulphate of zinc, nitrate of silver, and lint, generally dry, sometimes covered with cerate, were used until the time of complete cicatrization, which occurred 48 days after the operation.

As the patient is young, and the skin covering the tumor sound, the deformity is very slight, and even internally there is not so great a loss of substance as might be supposed from the enormous mass that was removed. It is true, the inferior turbinated bone, and the entire alveolar process, from the right canine to the last molar tooth, are wanting, leaving above so much only of the left maxilla as contributes to the formation of the orbit; but as there remain below four lines of the bone in its union with the palate bone, she still retains in a healthy condition a third of the arch of the palate; and by covering the hollow which is left with very fine and well compressed lint, can speak though with some difficulty; and the passage of air and food through the nose being prevented, mastication is performed with the four molars of the opposite side.

REVIEWS.

ART. IV.—*Lectures on the Principles and Practice of Physic;* delivered at King's College, London. By THOMAS WATSON, M.D., Fellow of the Royal College of Physicians, Physician to the Middlesex Hospital, and formerly Fellow of St. John's College, Cambridge. Philadelphia: Lea & Blanchard. 1vol. 8vo. pp. 920. 1844.

These celebrated lectures were delivered at King's College, London, during the medical session of 1836 and '37, and were repeated, with slight variations, for four successive years. To fulfil a rash promise, we are told by the author, it was that they were printed, at length, in the Medical Gazette. They were prepared, it will be seen, especially for students of Medicine, and they constitute, we believe it is conceded on all hands, one of the most complete systems of medical practice to be found in our language. A reprint of these lectures is now offered by Messrs. Lea & Blanchard to the profession of the United States, in a large and beautifully executed volume. It is not our purpose to give a synopsis of the subjects discussed in it, much less to attempt an analytical review of a work embracing the whole range of human maladies, their causes, symptoms and treatment. Ninety lectures, fully written, comprising all that the author has derived from his acquaintance with the best authorities in the profession and his own extensive practice, are not to be compressed, by any process known to us, into the limits at our disposal. Nor would our readers desire such a review. They will prefer studying the subjects at the full length in

which they are presented in the ponderous volume. To such however, as may not have the means of possessing themselves of the work immediately, we have supposed extracts from some portions of it might not be unacceptable. In making selections for quotation we have been governed by our own taste, and are far from being sure that we have made choice of the most valuable.

Our first extract relates to *strumous ophthalmia;* a malady especially prevalent among the colored population of our country. Our brethern will welcome any new light that may be reflected on its treatment.

"*Treatment of Strumous Ophthalmia.*—You will readily believe, from what has been said of this complaint, that it is an obstinate and troublesome one. Even when removed, it is very apt to recur again. The scrofulous *habit* on which it depends we cannot get rid of; and whenever the exciting causes of scrofulous *diseases* come into action, this form of scrofula is very prone to declare itself, at the period of life which I have already mentioned.

"More good is to be done by general treatment, applied to the system at large, in this form of ophthalmia, than in those we were occupied with before; and this is one strong point of difference between them.

"In the first place we must endeavor to correct that unnatural condition of the whole system, and especially of the digestive organs, which is commonly so striking a concomitant of the local disease. It will be proper to clear out the bowels in the outset, and occasionally, by a mercurial purge; and to regulate them at other times by laxatives, such as rhubarb, or the confectio sennæ, or castor oil. The recovery will be greatly promoted also by those measures which are found to benefit the general health in such constitutions; warm clothing, frequent ablution of the body, nourishing though plain food, the respiration of a pure atmosphere, *change* of air, and regular exercise.

"In addition to these measures, tonic medicines should be administered; the preparations of iron, for example, or the dilute mineral acids; but the best remedy of this kind is, undoubtedly, the sulphate of quina. This may be given to a child in grain doses, three times a day, dissolved in water, with a drop of the dilute sulphuric acid, and some syrup of orange peel. Dr. Mackenzie, in particular, has put this medi-

cine fairly to the test, having employed it in a very large number of cases with the happiest results. In most of his patients he declares that it acted *like a charm*, 'abating, commonly in a few days, the excessive intolerance of light and profuse epiphora; promoting the absorption of phlyctenulæ, and hastening the cicatrization of ulcers of the cornea.' And Mr. Lawrence adds his testimony to the same effect; and his experience in this disease, like Dr. Mackenzie's, has been large enough to make it highly valuable.

"A few words will suffice to explain the kind of local treatment that has been found useful. You may feel tempted to apply leeches round the eye. This is seldom requisite, except when there is more redness and pain than common, and the tongue becomes white, and the skin hot. Certainly you must not take the intolerance of light as a fit indication for the use of leeches. Abstraction of blood rather aggravates that symptom, apparently by increasing the irritability of the retina. Warm fomentations are generally very comfortable to the patient's feelings.

"When the general disorder of the system has been somewhat rectified, local stimulants and astringents are of great service. The vinum opii, and the solution of lunar caustic, are the best. These are often tedious cases, and therefore it is necessary that you should be aware of one great objection to the long continued employment of the nitrate of silver wash, which objection has been pointed out by Dr. Mackenzie. It is apt (but only when frequently repeated for a long time together) to stain the conjunctiva of an indelible olive color. For this reason the vinum opii is to be preferred in slow cases, and in cases where frequent relapses happen. The good effects of either of those preparations are very striking; they diminish the irritability of the eye, and promote the healing of the ulcers. The red precipitate ointment, and the citrine ointment of the Pharmacopœia diluted, are also found beneficial.

"Counter-irritation is another local measure, which is of undoubted utility in this complaint. A great change for the better in the state of the organ often occurs, almost suddenly, upon the rising of a blister placed behind the ear, or at the back of the neck. And issues in the arms are not only serviceable in promoting the cure, but have a marked effect in many children in preventing relapses. Mr. Welbank, in his notes to Frick's *Treatise on Diseases of the Eye*, says that he has seen chronic strumous ophthalmia, of seven years' duration, quickly and effectually relieved by an issue in the arm. Having once (says he) in the case of a boy in Christ's Hospi-

tal, directed the healing of an issue which had been made above twelve months, I found the immediate consequence to be a relapse of strumous inflammation and ulceration of the cornea, resisting every measure but the renewal of the issue.'

He suggests also (what parents are sometimes more willing to assent to) the advantage of making counter-irritation by piercing the lobe of the ear, and inserting a ring or silk; and 'a very convenient form of vesication will be found in the application of a strong thread, smeared with *emplastrum cantharidis*, and firmly tied behind the ear at the angle of its reflection.'

"When ulceration is going on in the cornea, and threatening to penetrate it, the progress of the ulcer may be checked by touching the surface once in two or three days with a pencil of lunar caustic which has been scraped to a fine point.

"When the more urgent symptoms have abated, and the discharge of hot and irritating tears has ceased, the crusta lactea may very easily be got rid of. The crusts are to be removed by a light poultice, or by warm water; and then the part must be bathed from time to time with a lotion made by mixing the oxide of zinc with water; a drachm to four ounces is the proportion I am in the habit of prescribing. If rose water be used instead of common pump water, the prescription will be thought the more *elegant*. This lotion will speedily dry up the discharge, and in a short time no trace of the ugly looking crust will remain. Parents are highly delighted and very thankful when you thus accomplish the removal of a large disfiguring and disgusting scab, which they naturally enough felt apprehensive might leave behind it a corresponding scar. But it is quite superficial."

We make no apology for introducing so long an extract, since we do not believe that we could fill our pages with matter of more decided practical value. The following quotation is not so long—it contains a suggestion never to be overlooked in cases of palsy. Our author remarks—

"There is one very common and distressing consequence of such disease of the spinal marrow as produces paraplegia, not particularly noted in any of the cases which I have related, but always to be looked for. The muscles, by means of which the bladder empties itself, are apt to participate in the palsy; and then the bladder empties itself no longer. The urine accumulates in it, and distends it, and the ureter even becomes

distended; and in this way not only the present but the prospective danger is increased. For the foundation of future disease in the kidneys is often thus laid, even when such distension of the bladder by its retained contents occurs independently of any disease of the spine; as it may do from stricture; from enlargement of the prostate; or even from the voluntary retention of the urine beyond a certain period, through feelings of delicacy. You are to look out, I say, for this distention of the bladder, and relieve or prevent it by the introduction of a catheter through the urethra. You must not be deceived by being told that the patient passes plenty of water; that it even runs from him. Incontinence of urine is, in fact, in these cases, though it may sound paradoxical, a sign of retention of urine. The urine dribbles away because the bladder admits of no further distension; it overflows, and runs out at the natural orifice, but the bladder remains constantly full and stretched. You must make an examination, therefore, of the hypogastric region with your hand. If you find that part of the belly hard and resisting, and giving out a dull sound on percussion, you may be sure, in these cases (where there is paralysis of the lower extemities, and the water dribbles away), that the bladder is full, and has lost the power of expelling its contents. Sometimes you may recognize the fluctuation of the urine in the distended bladder, and ascertain the globular shape of that organ. It will rise even beyond the umbilicus. But what I chiefly wished to point out to you is, the circumstance that the bladder becomes diseased, and the urine altered in quality, under this state of palsy. The urine becomes thick, ropy, and alkaline, and exhales a very offensive ammoniacal smell; and the inner surface of the bladder is found, after death, to be thickened, red, and covered with adhesive mucus—in a state of chronic inflammation, in short.

The facts related in the following passage, taken from the lecture on *hydrophobia* will be read with interest:

"It is curious that different species of animals appear to be susceptible of hydrophobia in different degrees. Thus, according to Mr. Youatt, two dogs out of three, bitten by one that is rabid, become rabid. The majority of horses inoculated with the virus perish. Cattle have a better chance: perhaps because in them the skin is looser and less easily penetrated. A full half (he thinks) of those that were seized by a mad dog would escape. With sheep the bite is still less dangerous,

He reckons that not more than one in three would be affected. The tooth, perhaps, has been wiped clean in its passage through the wool. The human being is least of all in danger. John Hunter states that he knew an instance in which, of twenty-one persons bitten, one alone became affected with hydrophobia. Dr. Hamilton estimates the proportion to be one in twenty-five. But I fear these computations are much too low. In 1780, a mad dog, in the neighborhood of Senlis, took his course within a small circle, and bit fifteen persons before he was killed: three of these died of hydrophobia. The slaver of a rabid wolf would seem to be highly virulent and effective. These beasts fly always, I believe, at a naked part. Hence, probably, the fatality of their bites. The following statement applies exclusively to the wolf. In December, 1774, twenty persons were bitten in the neighborhood of Troyes; nine of them died. Of seventeen persons similarly bitten in 1784, near Brive, ten died rabid. In May, 1817, twenty-three persons were bitten, of whom twelve died of hydrophobia within two months. Hence we have one hundred and fourteen persons bitten by rabid wolves, and among them no less than sixty-seven victims; considerably more than one half. There is no doubt, however, that a majority of persons who are bitten by a mad dog escape the disease. This may partly be owing to an inherent inaptitude for accepting it. We see some persons who, though often in the way of it, do not contract syphilis; there are others upon whom the contagion of small-pox has no influence. This difference exists, apparently, even among dogs. There was one dog, at Charenton, that did not become rabid after being bitten by a rabid dog; and it was so managed, that, at different times, he was bitten by thirty different mad dogs; but he outlived it all. Much will depend also upon the circumstances and manner in which the bite is inflicted; if it be made through the clothes, and especially through thick woollen garments, or through leather, the saliva may be wiped clean away from the tooth before it reaches the flesh. In the fifth volume of the Edinburgh Medical and Surgical Journal, there is a case described by Mr. Oldknow, of Nottingham, in which a man was bitten in three different places by the same dog; viz: in the scrotum, the thigh, and the left hand; the bite on the hand was the last. Now it seems not improbable that but for this last bite, on a naked part, he might have escaped. At least it was a remarkable circumstance that the phenomena of recrudescence occurred only in the hand and arm. The dog is supposed to have closed his mouth after inflicting the first two bites; and

thus to have charged his teeth afresh with the poisonous saliva.

"It is this frequent immunity from the disease in persons who have been bitten, that has tended to confer reputation upon so many vaunted methods of prevention. Ignorant persons, and knavish persons, have not failed to take advantage of this. They announce that they are in possession of some secret remedy which will prevent the virus from operating. They persuade the friends of those who die that the remedy was not rightly employed, or not resorted to sufficiently early; and they persuade those who escape that they escape by virtue of the preventive remedy. If the plunder they reap from the foolish and the frightened was all, it would be of less consequence; but unfortunately the hope of security without undergoing a painful operation leads many to neglect the only sure mode of obtaining safety."

Dr. Watson entertains the opinion common among English writers on the complaints of females, that puerpural fever is a contagious disease, and hence recommends the following precautions:

"I need scarcely point to the practical lesson which these facts inculcate. Whenever puerperal fever is rife, or when a practitioner has attended any one instance of it, he should use most diligent ablution; he should even wash his hands with some disinfecting fluid, a weak solution of chlorine for instance: he should avoid going in the same dress to any other of his midwifery patients: in short, he should take all those precautions which, when the danger is understood, common sense will suggest, against his clothes or his body becoming a vehicle of contagion and death between one patient and another. And this is a duty so solemn and binding, that I have thought it right to bring it distinctly before you."

Our next quotation relates to a disease, the first description of which was published but a few years ago. We shall devote much space to an account of this affection, assured that Dr. Watson's remarks concerning it convey information which many will be glad to receive:

"*Bright's Disease.*—Now it is quite certain that the presence of albumen in the urine does often accompany and bespeak a very serious organic disease of the kidney. For this disease we have no appropriate name. I wish we had. Some call it

granular degeneration of the kidney, but the epithet granular is not always applicable. It is most familiarly known, both here and abroad, as *Bright's kidney*, or *Bright's disease;* after the eminent physician, who, in 1837, first described it, and showed its great pathological importance. These are odd-sounding and awkward terms; but in the lack of better, I must employ them.

"*Anatomical Characters.*—It is very difficult to describe, in words, the anatomical characters proper to this renal disease; for they are neither very definite nor very constant. The description that I am about to attempt will be made more intelligible by Dr. Bright's plates, and those of M. Rayer, which are both before you.

"The morbid appearances presented by the kidney are such as denote some change in its intimate structure. Its cortical (or secreting) portion is the primary and chief seat of this degeneration; yet what is called its medullary (*i. e.* its excreting) part, is also sometimes implicated, but in a less degree.

"These morbid appearances relate to the size, figure, and consistence of the kidney; to the color and condition of its surface, and of its interior. With respect to some of these points there is much variety in different cases; and studying this variety under the light which is thrown upon it by the clinical history of the disease, we have reason to believe that it is connected with different stages of the disorganizing process. Thus if we look to the *size* of the diseased organs, they are sometimes much larger than natural, sometimes of the ordinary magnitude, sometimes considerably smaller. The average weight of the adult human kidney is four ounces. M. Rayer has met with some, in this disease, weighing twelve ounces. Both the increment and the decrement of the natural bulk belong principally, if not altogether, to the outer secreting portion of the gland. If a longitudinal section of the exaggerated kidney be made, its cortical part is seen to be unduly broad; and the same part is disproportionally narrow when the whole organ is smaller than common. For this reason, in the latter case, the radiating medullary portions approach nearer to the surface than they are observed to do in a healthy kidney. And it furthermore appears that the enlargement is most commonly coincident with the earlier, and the contraction or shrinking with the later, stages of the renal disease.

The *consistence* of the diseased gland is variable also. Sometimes, and for the most part in the earlier periods, it is soft and flabby; sometimes, and especially in the later periods,

it is remarkably compact and hard. The size and consistence of the kidney are, in most cases, inversely proportioned to each other.

"Again, the *form* of the kidney, in the disease in question, often undergoes some modification. As the special change proceeds, the exterior of the gland shows a tendency to become indented by linear depressions, and to present a lobular shape. This, however, is by no means a constant phenomenon, even in the most advanced stages of the malady.

"When its proper investing tunic is stripped off—and less distinctly *through* the same tunic, before its separation—the surface of the kidney appears mottled, marbled, or stained, of a yellowish gray color in one place, and of a dark or purple tint in another. Occasionally it is pale throughout its whole extent; more commonly of divers hues, and variegated with little streaks, which are portions of vessels containing red blood. Sometimes the surface is curiously speckled; often uneven as if strewed with prominent grains; in some instances quite rough and scabrous. These several unnatural appearances are usually the more conspicuous, in proportion as the complaint is the more advanced.

"The most uniform, however, and the most characteristic of the morbid appearances, are those presented by the cut surface of the kidney, when it has been divided into two symmetrical portions by a longitudinal incision. We then perceive that the cortical substance is the main seat of the morbid alteration. It has lost, in a greater or less degree, its proper red color and uniform aspect. Sometimes it puts on a speckled or granular appearance; but this, in my experience, is less common than a pale, homogeneous surface, somewhat like the section of a parsnip. Its natural striæ are confused or obliterated. The incised surface gives one the notion of some deposite, whereby the original texture of the part is obscured. The blood-vessels seem, many or most of them, to have been emptied by compression, or to be blocked up by yellowish solid matters; while the healthier pyramidal masses belonging to the medullary portion of the kidney are displaced, and pushed aside, or encroached upon by the same yellowish matter, which sometimes interposes itself between, and opens out, their radiating tubuli. Together with these changes of appearance and structure, I have several times found the veins that emerge from the kidney firmly plugged up by coagula of blood.

"In some rare cases the kidney is studded, both on its surface and throughout its interior, with numerous small cysts or

cells, containing a thin transparent liquid. These cysts have been inaccurately termed hydatids. It is not at all uncommon to meet with one or two such cysts in this diseased state of the organ.

"It has been made a question whether the various appearances which I have been attempting to describe, and which sensibly differ in degree and combination in different cases, are characteristic of different morbid conditions, or merely of different stages and varieties of the same essential change. Our knowledge of the subject is scarcely sufficient to supply a positive solution of this question. Excepting perhaps the cysts, my own *opinion* is, that they are all accidental forms and effects of one and the same morbid process. At the same time I ought to tell you that both Dr. Bright and Dr. Christison appear to incline to the opposite conclusion.

"There is still another state of the kidney, very different to the eye from any that I have yet mentioned, but which has been thought, and which I think, to be, in some cases at least, the first stage of all in the disorganizing process. This state, which I referred to when speaking of suppression of urine, may be briefly described in two words—*sanguine congestion.* The whole organ is gorged with blood, which sometimes drips freely from it when it is cut open. The kidney is in general large, somewhat flabby, of a deep dark red, even of a chocolate or purplish color, nearly uniformly diffused, except that the cut surface is usually diversified by still darker tuft-like spots, which have been ascertained to be the Malpighian bodies filled with blood. This change from the natural appearance of the kidney is evidently of a recent kind; and the symptoms that have been observed to belong to it are these: Fever, preceded often by rigors; uneasiness or dull pain in the loins; nausea and vomiting; a very scanty secretion of urine, which is sometimes tinged with blood, and always albuminous; occasionally complete suppression of urine. To these symptoms there is presently added, in most cases, sudden and general anasarca—what is commonly called inflammatory, active, or febrile dropsy. If the secretion of urine be entirely suspended, death soon ensues by coma, as I explained to you yesterday; but if not, the disorder is frequently fatal by the supervention of some acute internal inflammation; pleurisy, or pericarditis, or pneumonia, or peritonitis. Many persons recover completely from the condition expressed by this combination of phenomena. Many seem to recover, but bear about with them the germs or beginnings of those more chronic and latent changes which constitute 'Bright's kidney.'

"*Symptoms.*—And what are the signs which indicate, to an instructed eye, the presence of those changes? Some of them are precisely the same, in kind, as those which denote the acuter disorder; only mitigated in degree, and of slower march and succession. The patients are subject to obscure lumbar pains; to sickness from time to time, and retching; and their urine is apt to be red, brown, or dingy, as well as albuminous, from the intermixture of some of the coloring matter of the blood. They are obnoxious to inflammations of the serous membranes also; and more particularly to head affections, of which they often die; drowsiness, convulsions, apoplexy. And, to finish the resemblance, many of them, ay, most of them, become at length anasarcous. Besides these symptoms, there are others which are not seen in the acute malady; but it is acute. Gradually increasing pallor is almost constant; disease of the heart is common; and the skin, in general, even in the absence of fever, is remarkably dry and unperspiring. The patients are troubled by a frequent want to make water; by flatulence of the stomach and intestines; and by caprice of the bowels, which are sometimes obstinately costive, sometimes prone to diarrhœa.

"Now it is worth your while to remark, with respect to this category of symptoms, that (the state of the urine excepted) they have no special *primâ facie* reference to renal disease. They are all common enough in various other complaints. In truth they are mere secondary consequences of Bright's disease; and in so far as they are symptoms of it, they are *indirect* symptoms. Before Dr. Bright no one perceived, in such symptoms, any indications of disease of the kidney. The primary and fundamental organic malady reveals itself by no indirect symptoms, excepting those which are furnished by the urine.

"*Albuminous Urine.*—Seeing, then, that this peculiar disease of the kidney is coupled with effects so grave and perilous, and seeing that one of its most positive and distinctive marks is an albuminous state of the urine, two questions of great interest at once present themselves.

"1. Does albuminous urine *always* imply the presence of Bright's disease?

"2. Is Bright's disease, when present, *always* accompanied by albuminous urine?

"To both these questions the answer is—no.

"It is certain that some articles of food have the effect, in some persons, of rendering the urine for a time albuminous: perhaps it would be more correct to say that certain forms of indigestion cause this change. Albumen has also been detec-

ted in the urine under that general state of irritation produced occasionally by mercury, or by a blister to the skin. In the crisis of some febrile disorders, and in some cases of pregnancy, the same phenomenon has been observed. Whenever blood, proceeding from any part of the long tract of mucous membrane which lines the urinary organs, mingles with the urine, that fluid of necessity contains albumen, and coagulates if tested by heat or by nitric acid.

"On the other hand, when the kidney is really affected in the way already described, the admixture of albumen with the urine is apt to disappear, for a while, even suddenly. I have known it to vanish for several hours, immediately after the effectual application of a hot air bath; and after profuse purging by a full dose of elaterium. Sometimes it is absent for a longer period.

"Another important question, therefore, now arises. Finding albumen in the urine, how are we to know whether it does or does not indicate the presence of Bright's kidney?

"We may judge, in part, by frequently testing the urine, and noticing whether the albuminous impregnation be transitory or persistent. In part also we judge by the absolute amount of the albumen in a given measure of urine. If the urine be deeply charged with that unnatural ingredient, the presumption is strong that the kidney disease is in progress, and, when that disease is confirmed, another remarkable change is found to have taken place in the urine. Its specific gravity is very low; and striking in contrast with that of diabetic urine. This is therefore a very strong additional diagnostic circumstance.

"On Dr. Prout's authority we have assumed the specific gravity of healthy urine to range between 1015 and 1025. Other writers make it higher. But the urine voided in Bright's disease is sometimes as low as 1004; and its mean specific gravity does not exceed 1013.

"I need scarcely again remind you, that the question of specific gravity must always be viewed in relation to the absolute quantity of urine secreted. The specific gravity depends, of course, upon the proportion of the solid constituents of the urine contained in a given quantity. If the aqueous portion be augmented, the effect upon the absolute density will be the same as if the solid contents were proportionally diminished. But when, as frequently happens in certain stages of this renal disease, the specific gravity decreases while the quantity of the urine decreases also, that conjunction of phenomena becomes especially significant.

"The density of the urine being thus unnaturally low, notwithstanding the addition of the new substance, albumen, it follows, as a matter of inference, that the solid constituents proper to healthy urine must be sensibly diminished; and they are found, in fact, to be so. These solid ingredients consist mainly of urea, and of certain salts. The aggregate solid contents amount, in health, to sixty-seven or sixty-eight parts in every 1000. In Bright's disease the amount has been ascertained to be diminished to twelve or fourteen parts, and even, in an extreme case, to less than this—to about six parts.

"The urine contains, then, albumen; and it is deficient in urea. These two facts suggested, naturally enough, to M. Solon, and to others, the notion that albumen might be formed by a sort of conversion, at the expense of the urea; since these substances, by a slight alteration in the ratio of their elements, pass respectively each into the other. But it is not so. Dr. Christison had observed many years ago, that when the urine was deprived of the greater part of its urea, the quantity of albumen contained in it was small; and, on the other hand, in cases where the urea was considerable in quantity, the albumen was plentiful also. In a recent work on this subject, the same physician states that the whole of his subsequent experience has been in conformity with this observation.

"It being certain, therefore, that the albumen is not vicarious of the urea, what (you may ask) becomes of the urea? It is detained in the blood; and may readily be recognized there in considerable quantity; and herein lies, as I conceive, the secret of the secondary affections which belong to this disorder, and of its great fatality. The body is poisoned in detail by the retention of its own excrements. The blood not being duly purified through that great emunctory, the kidneys, is spoiled for its purpose of nutrition. Besides containing urea, it undergoes other and more manifest changes. Its proportion of fibrine varies; and it gradually becomes poor in coloring matter; the serum is less albuminous also, and of a lower specific gravity, than in health. The quantity of albumen in healthy blood averages from sixty-five to sixty-nine parts in 1000. In this malady Dr. Babington has found it reduced to sixteen parts. The average specific gravity of healthy serum is 1030; but in Bright's disease it descends to 1024, 1020, and even to 1013. Now Dr. Christison has made out the very interesting fact, that there is a definite inverse ratio between the coagulability of the urine, and the density

of the serum. The more albumen there is in the former of these fluids, the less is there in the latter, and the lower is its specific gravity. So that the deficiencies of the one fluid balance the superfluities of the other. All this is very different from what takes place in diabetes, in which sugar is excreted with urine that is otherwise healthy; whereas, in Bright's disease, urea, which ought to be discharged, remains in the blood; and albumen, which ought not to be separated, is taken from the blood, and carried out with the urine.

"*Stages.*—I have now described the changes presented by the kidneys in this disorder, the symptoms which attend it, and the morbid conditions both of the urine and of the blood. But these all vary and fluctuate at different periods of the complaint. I must next, therefore, endeavor to state what has been ascertained by its course and progress.

"When the chronic disorder is not a legacy left by the more severe and acute form of disease which I have termed febrile dropsy, it is apt to creep on very insidiously, and to escape our notice—and its history is not fully known. It will be enough if I distinguish two stages of the malady—the early, and the advanced.

"In the early stage the urine is generally scanty. Instead of about 40 ounces in the twenty-four hours, the patient voids 16, 12, 8, or even as little as 2 or 3 ounces. Sometimes the secretion is nearly or quite suppressed; and then the head seldom fails to become affected in the way already described. The urine has also an unnatural appearance. It is red, or dark, obscurely turbid, like muddy beer. It froths more than usual; and if you blow into it through a tube, you raise bubbles similar to those which may be formed in soapy water. Its specific gravity is somewhat, yet not greatly reduced; about 1021, perhaps; it is seldom at this period as low as 1016. It contains an abundance of albumen.

"At the same early period, blood drawn from the arm exhibits the buffy coat. The serum is much diminished in density, and contains a considerable quantity of urea. There is no decrease in the fibrine; perhaps it is a little augmented; and there is no great change in the amount of coloring matter.

"In the more advanced stages of the disease, the quantity of urine is frequently not below the standard of health; and it sometimes considerably exceeds that standard, so as to constitute one variety of chronic diuresis (*anazoturia*), which some call diabetes insipidus. It is usually pale, slightly opaque, and of a very low specific gravity; 1014, 1010, 1007. Once, when the quantity of the urine was *not* in excess, Dr. Chris-

tison found the specific gravity to be no more than 1004. There is a corresponding reduction in the natural solid ingredients of the urine. Albumen, too, is present, but more uncertainly than in the early periods: fluctuations in this respect are more common than before. It is a mistake to suppose that the amount of albumen increases as the disorder advances. The contrary rule would be more near the truth. In general the albumen is plentiful and almost constant in the outset of the malady; less surely present as it proceeds; and sometimes entirely absent in its latter periods; and it is of importance to remark that the alteration in the specific gravity follows the opposite law. The declension of density, so far from being corrected, augments with the progress of the disorder. Hence the one of these morbid phenomena is a valuable check upon the other, considered as an index of what is going on in the kidney.

"And another fact, which it is essential for you to know and to remember, is, that in any stage of the disease, the supervention of febrile disturbance, from local inflammation or whatever other cause, tends to renew, for the time, those qualities of the urine which belong to the early period.

"Meanwhile, the disease advancing, the serum of the blood recovers more or less its lost specific gravity, in proportion to the decrease of albumen in the urine. The quantity of fibrine seems, in some cases, to diminish. But the striking and most characteristic change is the rapid disappearance of the coloring matter, the hematosin, as it is called. This may at length be so much reduced as to form less than a third of the healthy average. If venesection be occasionally employed, this process of depravation is accelerated; but it takes place whether blood be artificially withdrawn from the system or not. 'I am acquainted,' says Dr. Christison, 'with no natural disease, at least of a chronic nature, which so closely approaches hæmorrhage in its power of impoverishing the red particles of the blood.' Hence the peculiar pallid or dingy hue of the patient's skin; the leucophlegmatic and even waxy aspect which invariably stamps the victim of this complaint.

"These characters, then, of the urine and of the blood, when rightly compared and interpreted, reveal not only the existence of the renal disease, but also, with much probability, the stage or degree that it has reached.

"*Secondary Affections.*—Let us next review, a little more in detail, those secondary affections which I have already pointed out as being incidental to the subjects of this renal malady. They are of much consequence; for, in the course of the dis-

ease, more or fewer of them are almost sure to occur; most of them are productive of very serious distress; and some of them place the patient's life in immediate jeopardy, and often bring it to a premature end. Moreover it is by these secondary affections that our suspicion of the primary disease upon which they depend is, in general, first awakened; and it is to the prevention or the removal of these same secondary affections that our curative endeavors must chiefly be directed.

"The most common, and practically the most important, of them all, is anasarca; but of this, although I mention it first, I shall postpone, for a while, the further consideration.

"Another very common, and very important secondary complication, is the occurrence of what we compendiously call *head symptoms:* various manifestations of derangement in the cerebral functions; headache, drowsiness, delirium, epileptic seizures, apoplexy. So frequently, indeed, is the death of the patient preceded by coma, with or without convulsions, that Dr. Christison considers this to be the 'natural termination' of the disease, or 'the mode in which it proves fatal when life is not cut short by some other incidental or secondary affection.' Of seventy fatal cases observed by Dr. Bright, death was ushered in by well-marked cerebral symptoms in thirty.

"I have already told you the circumstances under which these affections of the brain usually arise. They almost always follow any great diminution, or the entire suspension, of the secretion of urine. But this rule is not so strict as to admit of no exception. Occasionally, but I believe very seldom, the urine, in this disorder, is reduced to a very small amount, while the head remains undisturbed. Of this Dr. Christison has recorded a remarkable instance. One of his patients voided no more than two ounces of light urine daily, for nine days before his death; yet he continued sensible to the very last minute of his existence, and died simply of inanition. Sometimes apoplectic symptoms occur, and carry the patient off, although there has been no extreme or material reduction in the quantity of urine.

"Now when death has thus taken place in the way of coma, and the case had been complicated with anasarca, and serous liquid is found accumulated in unnatural measure in the cerebral ventricles, and in the tissue of the pia mater, it seems reasonable to ascribe the coma to the presence and pressure of that liquid. The dropsy has extended to the brain. And this view of the matter is strengthened by the connection which may sometimes be noticed between the accession of

coma and the visible increase of the dropsy in other parts of the body. My own experience accords entirely with that of Dr. Christison, as expressed in the following statement. 'If the dropsical fluid be allowed greatly to accumulate, drowsiness, the first symptom of the affection of the head, very soon makes its appearance in the generality of cases, and it will speedily pass to fatal coma, if not controlled, but the removal of the dropsy will usually remove the drowsiness.'

"To many cases, however, this explanation will not apply, there being no morbid collection of water within the skull, nor any other appreciable change there; nor, perhaps, any dropsy elsewhere. In such cases we refer the ultimate symptoms, the stupor and the death, to the poisonous influence of the urea in the unpurified blood upon the organs of animal life. Yet this explanation also has its difficulties. Urea must often circulate with the blood without affecting the brain. Dr. Christison states that he has repeatedly known the daily discharge of the solids of the urine to be reduced, for weeks together, to one-fourth of the natural amount, while, moreover, analysis of the blood showed that it was loaded with urea, without the appearance of any head symptom. Dr. Bright also relates a case to the same purpose. A person laboring under this disease of the kidney lived for four or five years under his occasional observation. The blood was analyzed in the earlier stage, and found to contain a large quantity of urea; as much as the urine itself contained. Yet this patient had no *fits* till towards the close of his life.

"I have sometimes fancied that the pale and watery condition to which the blood is at last reduced, may have something to do with the stupor and coma. I showed, you, some time ago, when speaking of spurious hydrocephalus, that similar symptoms are apt to ensue, in conjunction with a similar defect of hematosin. It would seem that, under such circumstances, the functions of the brain are exercised irregularly, languidly, and at length not at all, in consequence of the failing supply of its appropriate stimulus through the arteries.

"Another striking circumstance, observable in this disease, is a readiness of various organs of the body to inflame, and particularly of the serous membranes. According to M. Solon, who has lately published a thick volume on *Albuminurie*, this disposition has not been so manifest in France; but of its frequent appearauce in this country I can add my own testimony to that of Dr. Bright, of Dr. Christison, and of Dr. Gregory. Such intercurrent acute inflammation is not an uncommon cause of the patient's death. The pleura appears to

be much more often affected in this manner than either the peritoneum or the pericardium.

"It follows from this tendency, that when we come to inspect the dead body, we seldom find the kidney to be the only part in which structural changes are plainly visible. Most commonly evident traces of disease are met with in various organs.

"Disorder of the stomach and bowels is certainly a frequent companion of the renal malady: nausea, vomiting, flatulent distension, diarrhœa.

"It would appear, however, that these incidental and secondary complications prevail with irregular frequency in different places. They are probably determined, in some measure, by local and peculiar agencies. Thus vomiting and diarrhœa have been more familiar to the Edinburg observers than in London to Dr. Bright, or in Paris to M. Solon: while the headaches and coma, so often witnessed by the British physicians, have been comparatively uncommon in France.

"Disease of the heart, if not a secondary consequence, is a very frequent accompaniment of Bright's kidney. It is probable that the cardiac disease, and the renal disease, have sometimes no connection in respect to cause and effect, but are both results of some common cause; of habitual intemperance, for example.

"I am, however, of opinion, that the renal malady has a direct tendency, by its effect upon the blood, to generate disease of the heart. It induces anæmia; and anæmia, as I showed you on a former occasion, implies debility of the muscular texture of the heart, and leads to dilatation of its cavities; and the weak muscle, becoming irritable also, grows thicker as it labors more. In fact, this is the kind of cardiac disease which, more than any other, has been found coincident with the peculiar change in the kidney. Among 100 cases, recorded in a tabular form by Dr. Bright, there were 27 in which no affection of the heart could be detected. In 52 instances the heart presented the characters of hypertrophy, and of these no fewer than 34 were free from any trace of valvular disease. Among these 34 there were 11 cases of disease affecting the aorta: in the remaining 23 no cause for the existing hypertrophy and dilatation could be found in the heart itself, or in the great blood-vessels. The true cause may therefore be reasonably supposed to have been the renal disease, operating upon the involuntary muscle through the quality of the blood.

"Whether the renal disease be ever produced by the cardiac, is more questionable. In the acute renal affection, when it proves early fatal, the kidney is always found to be gorged with blood. And the customary intermixture of blood with the urine warrants the belief that the same condition was present in the patients who have recovered. From this state of engorgement springs, apparently, the subsequent series of changes. It is therefore a plausible conjecture that whatever tends to produce congestion of the kidney, tends, also, to aggravate, and may even cause, the peculiar changes in question. I need not now tell you that disease of the heart frequently occasions congestion of the venous system, and gorge the viscera with blood. Under this influence the liver often *enlarges.* On the other hand, disease of the heart, even such as gives rise to venous congestion and to dropsy, often lasts long, and proves ultimately fatal, without the occurrence of albuminous urine, and without any appreciable change of structure in the kidney.

"Pain or tenderness of the loins, is sometimes, and sometimes only, an accompaniment of the renal disease. This symptom is more often present in the early than in the later stages of the malady. It occurred in one-third of twenty-eight cases narrated by M. Solon. Dr. Gregory noticed it in the half of his patients.

"*Causes.*—The *causes* of the disease of which I have been endeavoring to sketch the outline, are often obscure. Its more obvious symptoms, in the chronic form of the malady, have been observed, in very many instances, to begin soon after the exposure of the body to wet and cold under unfavorable circumstances. But it is by no means certain—indeed the probabilties preponderate on the other side—that, in these instances, the renal disorder had not previously existed in a latent state.

"It is certain, however, that the acute kidney affection, which may be considered identical with febrile dropsy, does often arise under similar circumstances of exposure, and is attended with a marked disturbance of the functions of the kidneys. And Brights disease, in its chronic form, has been noticed as occurring in persons who had previously suffered, and had apparently recovered from, an attack of febrile dropsy. Are we not warranted in believing that the recovery was *imperfect* in such cases? that the kidney had sustained irretrievable injury? and that the disease, although from the treatment employed, or by lapse of time, it had become tranquil or la-

tent, was ready again to give indications of its existence upon any repetition of its exciting cause?

"Again, it is matter of common observation that intemperate habits have often preceded the development of this disease. Yet we may conclude that intemperance in drinking is rather a predisposing than an essential cause, from the fact that the malady is not unknown among children, and other persons whose manner of life has been strictly sober. I had lately an example of this in a young girl, fifteen years old, who had never menstruated. And this leads me to remark that the renal disorder has been known, in many instances, to follow a sudden check or suppression of the catamenia. It has sometimes seemed to owe its origin to blows received upon the loins.

"The complaint happens at all ages: less often, however, in extreme youth than afterwards. Sabbatier records that he saw, while in the service of M. Baudelocque, a young infant affected with anasarca and albuminous urine. The first case described by M. Solon, is that of an infant, seventeen months old, in whom similar symptoms appeared shortly after exposure to cold and wet. In 1838 a boy, between five and six years old, anasarcous, and passing bloody and albuminous urine, was in the Middlesex Hospital, under the charge of my colleague Dr. Wilson. M. Constant, in the *Gazette Médicale*, for 1835, cites the case of a child of five years of age; and M. Rayer gives two plates, representing the kidneys of two children, the one five and the other six years old, who both died of dropsy with albuminous urine, the sequel of scarlet fever. In each of these the changes described by Dr. Bright were well marked, and the bulk of the kidney was considerably increased.

"The malady is, however, much more common in adults; not, in all probability, because the kidney is more readily susceptible of it at one period of life than another, but because, as life advances, the circumstances which tend to produce or foster it become of more frequent operation; intemperance, exposure to great vicissitudes of temperature, and (perhaps) disease of the heart.

"It occurs, I presume for the same reasons, oftener in men than in women.

"Dr. Christison suspects that Bright's kidney happens chiefly in persons of scrofulous habit; and he found it, in several instances, coincident with phthisis pulmonalis. My own experience would not have led me to that opinion. I partake in M. Solon's doubts, whether the coexistence of the pulmonary

consumption and of this renal malady is more than casual. Dr. Bright tells us that 'the instances in which phthisis, or any form of scrofulous or tubercular disease, has been connected with the renal affection, have been decidedly rare.'

"*Nature of the Disease.*—What, after all, is the true character and essence of the organic metamorphosis which constitutes this formidable disorder, Bright's kidney? All that has been ascertained of its early stages, of its course, and of its causes, furnishes to my mind a strong presumption that the structural change, in all its varieties of aspect, may be ultimately traceable to an undue accumulation and stagnation of blood in the blood-vessels of the kidney. Those curious arterial bunches, the Malpighian bodies, appear especially to be overfilled and obstructed. Rayer calls the complaint *albuminous nephritis;* and perhaps the congestion (which unquestionably is present in what I consider the acute form of the malady) may sometimes pass into chronic inflammation. We do not, however, find that it ever terminates in suppuration; yet suppuration is no uncommon event of true inflammation of that part, excited by violent injuries, or by the lodgment of calculi within it. It seems to me more probable that the mischief done to the kidney is owing to extreme congestion, and its usual consequences—the oozing forth of the blood in substance, or of some of its constituents, into the interstitial textures, as well as into the excretory tubes of the kidney. The appearance of these ingredients of the blood, and even sometimes of blood itself, in the urine; the increased size of the gland in the earlier stages; the various shades of color which its surface and parts of its interior present, as the coloring matters of the effused fluids are more or less absorbed; the impermeability of those altered parts by artificial injections; the ultimate shrinking and hardness of the organ as the disorder becomes chronic, and absorption proceeds; these are all consistent with this theory. It is plain that the morbid conditions of the urine depend, in part at least, upon the mechanical transudation of certain portions of the blood, which pass through the kidney unchanged, as through an inert filter. Mixed with the urine we find serum, with its albumen, and its salts, which diminish the acidity of the mixture, or even render it neutral; and in many cases we find more or less of the coloring matter also of the blood. Those portions of the extravasated fluid which have no outlet of escape, solidify, and thus obliterate the natural texture of the part they have invaded. The obstruction of the emergent

veins of the kidney by firm clots of blood is in harmony with the same supposition.

"When the kidney is thus spoiled, its natural function is imperfectly or but partially performed. The change which it should effect upon the blood, by purifying it from urea, fails to be accomplished. The albuminous impregnation, and the other altered qualities of the urine when voided, may be explained either by supposing that the secreting power of the whole gland is interfered with, but not absolutely suspended; so that the urine is incompletely elaborated; or, by supposing that portions of the gland are spoiled, and portions remain sound and effective; that true urine is formed by the healthier portions, and mixes with the constituents of the blood which pass, as such, through the diseased portions. The latter of these hypotheses is most in accordance with the fact that, in the advanced stage of the disorder (when we may conceive the spoiled parts to have become mere solid unchanging masses) the albumen is apt to disappear from the urine: and also with the fact, that complete recovery does sometimes appear to take place; in which cases we may imagine that, although a small portion of the substance of the gland has undergone irremediable change, enough of it remains healthy to serve the wants and purposes of the economy."

The style of these lectures, as the foregoing extracts will bear testimony, is concise, simple and perspicuous. So much information could hardly have been imparted in fewer words. No details necessary to the full elucidation of the subject are omitted, but at the same time that the reader experiences this to be so, he will admit that, in the minuteness of his descriptions, the author never grows tedious. We are free to state, that a careful examination of the volume has satisfied us, that it merits all the commendation which has been bestowed upon it at home, and in this country. It is a work adapted to the wants of the young practitioner, combining as it does sound principles and substantial practice. It is not too much to say, that it is a representative of the actual state of medicine as taught and practised by the most eminent physicians of the present day, and as such we would advise every one about embarking in the practice of physic to provide himself with a copy of it. Y.

ART. V.—*On the Nature and Treatment of Stomach and Renal Diseases;* being an inquiry into the *connexion of Diabetes, Calculus, and other Affections of the Kidney and Bladder, with Indigestion.* By WILLIAM PROUT, M.D., F.R.S., Fellow of the Royal College of Physicians. *From the 4th revised London Edition, with plates.* Philadelphia: Lea & Blanchard. 1843. 8mo. pp. 465.

This treatise has been now many years before the public, and no more satisfactory proof of its excellence could be given, than the fact that it has held a place, so long, among the standard works of the profession. It would seem quite an unnecessary service to commend to our readers a work, the reputation of which is so well established, and altogether out of time to undertake an analysis of its contents. Doubtless this would be true, if Dr. Prout's valuable labors were as well known in this region of our country as the present re-print of his book promises soon to make them. But at present we doubt, whether this volume is to be found generally in the libraries of our physicians. At all events, we have not often met with it in private libraries, and since it treats with singular clearness and ability of a class of affections, unsurpassed in importance by any other, and which often perplex the practitioner by the obscurity of their diagnosis, we have concluded that we could not appropriate a few pages more profitably, even at this late day, than to an analytical review of this work.

Dr. Prout divides the proximate alimentary principles into four classess, viz: the Aqueous, the Saccharine, the Albuminous, and the Oleaginous, and in conformity with this constistitution, he considers the pathology of the assimilating processes under four similar heads. The first part of his treatise comprises the following subjects:

CHAP. I. General observations on the Pathology of Aqueous assimilation and secretion.

Section a. Of the relation of Fluids to the assimilating processes in Health and in Disease.

b. Of the relation of Fluids to Nephritic operations in Health and in Disease.

CHAP. II. General observations on the Pathology of Saccharine assimilation and secretion.

Section a. Of Saccharine urine. *Diabetes.*

b. Of Oxalic acid; Oxalate of Lime.

c. Of Lactic acid.

CHAP. III. General observations on the Pathology of Albuminous assimilation and secretion.

Section a. Of an Excess and Deficiency of Urea.

b. Of Albuminous urine.

c. Of Lithic acid.

d. Of Cystic Oxide.

CHAP. IV. General observations on the Pathology of Oleaginous assimilation and secretion.

Section a. Of an Excess and Deficiency of fat.

b. Of Cholesterine and its Deposites, &c.

The important class of diseases, arising from the Mineral matters incidental to the proximate animal principles, will be separately considered under the head of

CHAP. V. General observations on the Pathology of the Incidental Mineral matters entering into the composition of organized bodies.

It is only lately that the important truth has come to be generally recognized, that the bodies of animals consist essentially of the proximate alimentary principles by which their existence is maintained. But these matters are greatly modified by the assimilating organs, and hence it follows, that any derangement of their function must show itself in an unhealthy state of the secretions, especially of the liver and kidneys. Thus, in diabetes, sugar is found not only in the urine, but also in the blood, which in healthy individuals never contains it, the stomach having lost the faculty of assimilating this principle. The first step in the derangements producing this disease, consists, therefore, in the greater or less destruction of this faculty. The saccharine state of the urine is regarded by Dr. Prout as the characteristic symptom of this affection, to the consideration of which the first section of his second chapter is devoted.

Diabetic urine is transparent, of a pale straw or greenish

color, of a specific gravity greater than water, being sometimes as high as 1.055, and containg in a wine pint very nearly two ounces of solid extract. The quantity of urine voided is sometimes enormous, thirty pints having been discharged in twenty-four hours, for weeks and even months together, in some cases. The tongue becomes loaded with a white frothy mucus, the mouth clammy, while the appetite remains unimpaired, or is even better than ordinary; but under the wasting discharge of urine, the patient daily loses flesh and strength, the skin grows dry, a sense of chilliness and fatigue is felt, accompanied by dull pain in the back and loins and in the lower extremities. If the disease be recognized and properly treated, at this stage, its progress may in many cases be arrested, and health may be restored. Unfortunately, however, it is apt to be overlooked, or mistaken, and under an improper treatment advances to an incurable stage. The urine is voided in still greater abundance, the thirst increases, the mouth is dry and parched, the tongue becomes preternaturally clean and red, an uneasiness is felt in the region of the stomach, attended with a sense of sinking, and incessant craving after food and drinks. The mind suffers, and grows fretful and suspicious, the pulse becomes feeble and accelerated, some important organ is involved in disease, the breathing becomes disturbed, a cough comes on, and phthisis is finally developed, or else the patient grows comatose and sinks under symptoms of cerebral disease. Such is the progress of diabetes in its simplest form.

Diabetes seems to be peculiar to mankind. In horses and other animals the urine is often much increased in quantity, but is never saccharine. A predisposition to the disease is frequently inherited, and when this is present many exciting causes may bring it out, such as exposure to cold, attacks of gout and rheumatism, the drinking of cold fluids while heated, mental distress, concussions or injuries of the back, and cutaneous diseases. It almost "always accompanies carbuncles, and malignant boils allied to carbuncles."

The prognosis is generally unfavorable, except, as mentioned

in the early stage of the disease. Much of the treatment consists in regulating the diet. Saccharine matters, and those convertible into sugar are to be avoided as much as possible. It is to be carefully guarded in quantity, as well as quality. The same remark applies equally to the use of fluids, and the management of drinks in this disease is often felt to be one of the points of the greatest difficulty. Water is to be sparingly used, and milk and animal decoctions to be taken instead. By regimen the quantity of urine is to be diminished, and its character improved. As to medication our author observes:

"We have already stated, that no specific remedy is known for the essential symptom of diabetes; in other words, we can no more directly restore the paralyzed function of the assimilating organs, than we can directly restore the paralyzed function of an arm or of a leg. The medical treatment of diabetes, therefore, must be conducted on general principles; and consequently must not only vary according to the degree and complication of the affection; but according to the general state of health and the peculiar constitution of the patient."

General blood-letting is demanded in recent and acute cases, and may be repeated according to circumstances; and in most cases local bleedings from the epigastric region are beneficial. Purgatives are much relied on by some, but in the estimation of our author, they are most useful when limited to the regulation of the bowels. The action of the skin is to be restored, if practicable, by the use of diaphoretics. Tonics, sedatives and astringents are also prescribed, with many other remedies not referrible to any of the preceding classes. Among the most recent and active of these may be mentioned creasote, prussic acid, colchicum, strychnine, and iodide of potassium, which are employed empirically. When complicated with other diseases, as, for example, with disorder of the liver, such complications must be taken into account, and the treatment modified accordingly.

In connexion with the hepatic complaint often associated with diabetes, Dr. Prout takes occasion to protest against the

abuse of mercury, which he believes to be very great in the treatment of such affections. Mercury, he insists, "ought never to be administered for those slight deviations from health which can be readily removed by safer expedients," and should be cautiously administered to those on "whose constitution its effects have not yet been ascertained." He reprobates the practice of "a calomel pill at night, and a black dose in the morning, for all diseases and all kinds of constitutions—from the congested liver of the overgorged alderman, to the torpid liver of the weak and indolent female." And, we suppose, few of his readers will have the hardihood to differ with him. It must be admitted, that some discrimination is necessary in the practice of physic.

Dr. Prout closes his remarks on diabetes with an account of a diuresis which occurs in children soon after the period of weaning, and which may be characterized by albuminous matters in the urine, by an excess or deficiency of urea, or by saccharine matter. At first the urine is scanty and high colored, but as the disease proceeds the quantity rapidly increases; the bowels are disordered; the skin harsh and dry; and the pulse quick and irritable. If badly treated, it terminates in organic lesion of the kidneys. It is in all its forms a disease of a formidable character, and when it has assumed its worst aspect may be considered hopeless. The treatment in it consists in regulating the diet; in removing the sufferer to a pure bracing air, and carefully attending to the state of the bowels. Of diet, milk forms the most eligible article.

We pass, with a single quotation, over the section on the *oxalic acid diathesis*, which our author supposes to prevail in the class of diseases now under consideration:

"The presence of oxalic acid in the system, as far as the primary assimilating processes are concerned, arises from one of two causes, which, for want of a better name, we term *proximate* causes; viz: the non-assimilation of oxalic acid taken as food; and the mal-assimilation of saccharine aliments, and in extreme cases, perhaps, of albuminous and oleaginous aliments. The first of these causes may exist without the second, and may even give occasion to the formation of a

nephritic oxalate of lime attack, without producing, in a marked degree at least, the constitutional symptoms usually present in this diathesis; of which I have seen instances. It is probable that the first cause operates principally in those in whom the *converting* function of the stomach is *deficient in power;* and in whom, at the same time, there is a predisposition to the oxalic acid diathesis; for there is every reason to believe that the perfectly healthy stomach can convert small quantities of the oxalic acid when mixed with the articles of food. The second cause consists in something more than mere weakness; there is in this case a *positive derangement of the converting function* of the stomach. These two conditions, however, of the converting functions of the stomach, may be supposed to be so nearly allied, as not only in some instances to co-exist, but to pass into each other."

The next section treats of *lactic acid* as one of the modifications of these derangements. This acid, with the muriatic, is always present in the stomach during the reducing process, derived partly from the blood, and partly from the imperfectly assimilated food. The predominance of the muriatic acid seems to be connected with an inflammatory state of the system—that of the lactic acid, with a state of irritation. Thus the muriatic is found in dyspeptics of a plethoric or gouty habit, and the lactic in those of a delicate or nervous constitution. Other acids accompany these two, when they abound, as the oxalic, carbonic, butyric, &c., but that product which proves the most troublesome is nitrogen, which, in nervous subjects, "is occasionally developed from the stomach in enormous quantities," and which being less stimulating than any other of the gaseous principles is apt to be retained, thus distending the stomach, and adding greatly to the miseries of the patient. The muriatic acid, derived from the muriate of soda existing in the blood, when it passes from the stomach into the duodenum, is probably neutralized by the soda of the bile, when that secretion is healthy. But the lactic acid must descend into the intestines uncombined, since there can be no equivalent of alkali in the duodenum to neutralize it, and is taken up by the lacteals, or passes into the inferior bowels, giving rise to a variety of unpleasant symptoms.

The natural condition of the intestinal canal, Dr. Prout conceives, "with the exception, perhaps, of the cœcum, is either neutral, or occasionally verges towards slight acidity on the one hand, and slight alkalescence on the other." Disturbance, therefore, must be the result of the passage of acid matters into the intestines. The symptoms will vary in different individuals, and according to the age of the subject. Colic, tormina, diarrhœa, intussusception, and convulsions are among the consequences which may flow from it. In very many persons a nervous headache is the attendant upon this state of things, which involves, also, a derangement of the biliary secretion. This headache is limited to the forehead, attended by nausea, intolerance of light and sounds, and is apt to terminate very suddenly, with a sensation as if bile were passing the gall-ducts. Our author ascribes the relief experienced under such circumstances, to the flow of the bile into the cœcum, where the soda existing in it corrects the acidity upon which the headache depended. He continues, on this subject:

"It is remarkable that those who suffer least from the derangement of the primary digestive processes, often experience the greatest inconvenience from the derangements of the secondary class, or from their consequences. This is perhaps referable in a certain degree to the fact, that such individuals pay less attention to diet, than those whose condition of stomach obliges them to live more cautiously. As an illustration of this point, we may observe, that we frequently hear such individuals boast that nothing disagrees with their stomach; and the consequence is, that they cannot be persuaded to abstain from the most improper things; but partake of every thing alike that comes in their way. In the prime of life, and in sound constitutions, this state of things goes on for periods varying according to circumstances, and particularly according as individuals are indolent or active. In almost all instances, however, sooner or later, the urine becomes loaded, the liver congested, and more or less of fever and derangement of the stomach and bowels; in short, what is usually called a *bilious* attack, takes place. For this a calomel pill and a black dose are resorted to, and all being apparently righted, the individual resumes his former hab-

its; and after a time again undergoes the same round of changes."

In malarious districts such derangements of the assimilating organs are not only more common, but they are also very often followed or accompanied by ague, rheumatism and neuralgia. The treatment of the primary derangements consists in the use of laxatives, regimen, tonics, and alkalis, and where they are succeeded or complicated, as above, quinine must be superadded, or bleeding, purgatives, or other remedies, demanded by the symptoms.

We should like to follow our author through his elaborate and instructive chapter "on the *pathology of albuminous assimilation*," but having, in the previous article, given a long history, under the name of "Bright's disease," of one of the disorders of the kidney described under this head, we will limit ourselves to a notice of the section on lithic acid.

This substance, "which is derived from the albuminous principles," in a healthy condition of the urine remains transparent after cooling, and even until the spontaneous changes incident to it have commenced. But in certain morbid conditions of the system this acid is rendered incapable of being retained in solution, and is precipitated when the urine becomes cold, sometimes even before, either pure, or in combination with soda or ammonia. So long as it is not deposited in the *warm urine* little danger is to be apprehended, unless a calculus has already formed in the kidney or bladder. When a disposition is shown in the acid to concrete together, or when it is deposited in very large quantity, the formation of a calculus may be feared.

Of the sediments of the urine the yellow is esteemed the least indicative of disease. It is produced in healthy or slightly dyspeptic individuals by errors of diet, changes of weather, and a variety of other circustances disturbing the digestive function. Now and then, perhaps, this deposit is seen in the urine of the healthiest persons. The *red* sediment indicates feverish or inflammatory action, and the deeper the color, generally, the more severe the inflammatory symp-

toms. The *pink* sediment attends upon certain visceral affections, especially of the liver and spleen. The most perfect specimens Dr. Prout has seen, "have occurred in dropsical cases associated with hepatic disease. When dyspepsia is connected with formidable visceral disease, the urine is occasionally of a bright pink color."

"The *symptoms* local and constitutional accompanying the deposition of lithic acid in the massive condition from the urine, are more or less of pain or uneasiness in the region of the kidneys; with irritation and sense of heat about the neck of the bladder and urethra. There is also a frequent desire to pass the urine, which is voided in small quantities at a time, and without affording the usual relief; the sensation still continuing of something being left behind in the bladder. The digestive functions also, as in most cases where urinary deposites are concerned, are considerably deranged, or very liable to become so; and the patient is very frequently troubled with acidity of the stomach, flatulence, &c., particularly after any little error in diet; as the use of fruits, acescent wines, &c."

The causes of lithic acid sediments may be classed under the three heads of *diet*, *exercise*, and *atmospheric influences*, of which the first is much the most effective, although the want of exercise, especially if conjoined with full or improper diet, must be regarded as a fruitful source. It is an interesting fact, that "many individuals subject to derangements of the general health, seldom feel so well with respect to their health, as when these deposits take place in the urine." This is particularly true in cases of gouty individuals.

Of the treatment, it is not necessary to say much. That must be conducted upon general principles. All the measures which promote the process of assimilation are to be carefully observed and enforced. Our author justly observes, that—

"It cannot be too strongly impressed upon those who suffer from gravelly affections in middle life, that the *cause* of these affections lies deep in the constitution; and that to counteract their distressing effects, perseverance in the appropriate diet, regimen, and medicine, is absolutely necessary.

It is absurd to look for permanent relief in these complaints, by attention to regimen and medicines for a few days or weeks. In obstinate cases, an adherence, more or less strict, according to circumstances, to the principles above stated, should be adopted for months, or even for years, to ensure success."

Our author correctly remarks, in the preface, that the principles of his work include almost every disease to which organized beings are liable, but in our partial notice we shall be obliged to omit many of the subjects. Cystic oxide is one of these, which we are the readier to do because it is a disease of rare occurrence. So, too, the chapter on *the pathology of oleaginous assimilation and secretion*, including the cause of obesity and leanness, and the nature, symptoms, and treatment of gall-stones, will be passed over, while we proceed to give some account of the diseases connected with insoluble incidental matters in the urine. And first of the phosphate of magnesia and ammonia, and the phosphate of lime.

In a healthy condition of the system, these are evolved in a state of solution; but under the influence of disease the balance of the natural affinities is broken, and they are deposited in the urine, and in other parts of the body in the solid form. Dr. Prout thinks the symptoms produced by the triple phosphate of magnesia and ammonia, and the phosphate of lime, as well as the immediate origin of these two compounds, are different.

"The *triple phosphate of magnesia and ammonia* is usually deposited from the urine in the form of perfectly white shining crystals, and constitutes what is denominated *white gravel;* in contradistinction to the lithic acid crystals, which from their color, is termed *red gravel.* The white form of gravel sometimes occurs alone, but very frequently it alternates with, or is accompanied by, the pale colored lithic amorphous sediments; or the amorphous variety of phosphatic sediment, to be presently described."

Nervous irritability is characteristic of this diathesis, which manifests itself in various ways. In some cases, the symptoms simulate asthma; sometimes spasmodic action of the

bowels, borborygmi and flatulence attend; and again the patient has copious, exhausting motions. The symptoms indicative of the deposition of phosphate of lime are not so strongly marked, although partaking of the same irritable character. In the latter a cachetic state of the system is often present, manifested by cutaneous eruptions of a scaly or leprous character. The urinary affection appears to alternate with this eruptive disease, growing better when the disorder of the skin is worse, and *vice versa.*

"The *phosphate of lime* is deposited from the urine in the form of an impalpable amorphous powder, which is generally white; though occasionally it is slightly tinged with the coloring matters of the urine. The properties of the secretion depositing the phosphate of lime are various. In a few instances, I have seen deep colored, acescent urine, of a specific gravity above 1.030, and possessing all the sensible qualities of urine in an exalted degree, deposite phosphate of lime in large quantity; indeed urine depositing this salt is not unfrequently acescent, at least when passed."

These salts, the triple phosphate, and the phosphate of lime, although occasionally, are yet rarely, deposited in separate states. In by far the greater number of cases the earthy deposites consist of a mixture of the two, the properties being varied in every possible degree.

"The phenomena when presented by the urinary deposite, consisting of the *mixed phosphates*, vary considerably, according as the one or the other salt abounds, and according, more especially, to the source of the phosphate of lime. When the triple phosphate predominates, the deposite assumes more of the crystalized form; when the phosphate of lime predominates, and is derived from the kidney, the deposite is usually in the form of a white (or yellowish) impalpable powder; or if the phosphate of lime be derived from the coats of the bladder, the deposite usually appears partly in the form of a white powder, and partly in the form of large crystalline granules, enveloped in much tenacous mucus. As in the other form of the deposite, the phenomena presented by the urine abounding in the phosphates is liable to great variations. When the disease is constitutional, and not connected with local causes, as disease of the bladder, &c.,

the urine is almost always pale colored, and, on the whole voided in greater quantity than natural. The quantity (and of course the quality) is subject to very great and capricious changes, and sometimes, especially by day, the urine is voided in enormous quantity, amounting to actual diuresis. On such occasions the urine is pale colored and of low specific gravity; indeed, I have occasionally seen it perfectly limpid, and scarcely differing in weight from common spring water. At other times, the urine is voided in very small quantity, in which case it is deep colored, and of a specific gravity of 1.025 or higher. When the urine is abundant and of low specific gravity, it is usually free from deposite; on being submitted to heat, however, it generally becomes turbid from a deposition of the phosphates. When voided in small quantity, on the contrary, the urine is often turbid when passed; and in almost all instances, on standing for a time, it deposites the mixed phosphates in abundance. When the bladder is diseased, the urine is generally alkalescent from the beginning; and the earthy deposites are enveloped in large quantities of mucus, which is sometimes tinged with blood. In all instances, however, even if it be slightly acescent at first, it becomes alkalescent on cooling; hence, from its proneness to decomposition, urine depositing the phosphates is apt to become exceedingly offensive in a short time after it is passed."

A deposition of the mixed phosphates is apt to be accompanied by very distressing constitutional symptoms. Great derangement of the chylopoietic viscera is present, attended by universal irritability of the general system. The expression of the countenance becomes sallow and haggard, and, at length, coldness of the legs, anaphrodisia, great languor and depression of the spirits, and other symptoms of extreme debility supervene, such as those which attend upon diabetes.

"An excess of the mixed phosphates in the urine, considered as an idiopathic disease, is not of common occurrence; and the deposition of these salts is much more frequently accompanied by local diseases of the urinary organs. Hence a deposition of the phosphates usually accompanies protracted bladder and prostate affections; and thus superadds too frequently the miseries of stone to the other sufferings of the patient. Even the presence of a stone in the bladder, of

whatever it may be originally composed, if permitted to remain, sooner or later produces a deposition of the phosphates; which, by incrusting the stone, adds rapidly to its bulk; and thus increases tenfold the patient's misery."

In the treatment of these affections, diet and regimen are matters of the utmost importance, and our author insists, in regard to the former, that a due proportion of animal food is demanded by the asthenic condition of the vital powers. The diet should consist of solids principally, and he does not object to the use of wine and cider where the individual has been in the habit of drinking them. Whatever disagrees with the stomach is, of course, to be avoided, and, in like manner, as to exercise, whatever fatigues or exhausts, either bodily or mentally, will do mischief. The exhilarating air of the country, agreeable employment, and absence from care, are influences to be invoked in the cure of this complaint, and will often effect it in "those slighter and induced cases, in which the affection is not complicated with local injury." We cannot follow the author into the details of the medical treatment;—he states the general method of it in the following sentence:

"Sedatives, tonics, and antalkaline remedies, therefore, of various kinds, and variously associated, according to the particular symptoms and circumstances of the case constitute the most efficient means we possess of combatting that peculiar condition of the system, accompanied by a deposition of the triple phosphate in the urine; and in general the slighter cases will readily yield to the due administration of these remedies, while the severer and more deep-seated cases will commonly become ameliorated under such a plan of treatment."

Book II is devoted to the consideration of MECHANICAL DISEASES, or *those involving lesions of the kidney and bladder, and particularly from the presence of concretions in these organs.* These subjects, of all that are discussed in the volume before us, are those which have attracted the most general attention, and with the symptoms of which the profession is most familiar. Calculi in the kidneys—the diseases

produced by, and liable to be confounded with calculus in these organs—calculi in the bladder—the diseases liable to be confounded or complicated with vesical calculi—hemorrhage from the urinary organs—incontinence and retention of urine—these are affections so clearly marked, and generally so distressing in their nature, that the practitioner is not likely either to disregard them, or to err in his diagnosis. A chapter is devoted to the removal of calculi from the bladder, by solvents, and by the operations of lithotomy and lithotrity. In regard to the first mode, however, the author feels "obliged to confess that in spite of all the boasted light of modern science, the problem remains unsolved, and that we cannot by any known medicinal means, or at least by any known method of directing these means, get rid of a large calculus in the bladder, by other than mechanical expedients." Still, he does not regard the removal of calculi from the bladder without surgical operation, as impossible. On the contrary he thinks that "considerable progress has been made in certain favorable instances, towards the attainment of such object." But he remarks that the introduction of lithotrity has taken away a good deal of the interest which was once felt in this subject, affording as it does, where practicable, a safe mode of removing visceral calculi. Unfortunately, however, the cases are very numerous in which it is not practicable.

The third part of Dr. Prout's work embraces many facts and speculations in physiology which we should be glad to embody in this article, but the few pages left us forbid the attempt. From an inspection of the heads of the several sections it will be perceived how rich a store of information is here provided for the diligent searcher after knowledge of the animal functions. They are as follows: "The ultimate composition and structure of organized bodies, and of their general physical characters, as dependent on their composition;" "alimentary proximate principles;" "the primary processes of assimilation;" "the secondary processes of assimilation;" "the general pathology of the primary and secondary assimilating processes;" "the general composition

and properties of the blood;" "the functions of the liver, and composition and relations of the bile to the assimilating processes;" "biliary concretions or gall-stones;" "the functions of the kidneys, and composition and relations of the urine to the assimilating processes;" "urinary calculi, their composition and characteristics;" to which is subjoined "an *appendix* containing tables illustrating the number of fatal cases of diabetes and calculus in different districts in England and Wales; the comparative prevalence and laws of formation, and alteration of different calculous deposites; of the comparative prevalence of calculous affections at different ages and in different sexes; and of the rate of mortality from the operation of lithotomy."

The student who is in quest of the fullest information on any of these topics, afforded by the present state of the science, will find it in this volume. Dr. Prout is not a mere compiler of other men's opinions and discoveries, but an original inquirer, and deep thinker, whose learning in the related sciences imparts uncommon value to his physiological and medical speculations. As a specimen of his manner of solving the difficult problems of vital action, we give the following extract, in which an attempt is made to account for certain changes occurring during the process of assimilation:

"Supposing the chlorine or muriatic acid found in the stomach to be derived from the common salt existing in the blood and in the stomach, another question arises,—what becomes of the soda from which the muriatic acid has been separated? The soda remains behind, or is absorbed into the mass of blood, and a portion of it no doubt is requisite to preserve the weak alkaline condition essential to the fluidity of the blood. But the larger part of this soda is probably directed to the liver, and is elicited with the bile in the duodenum; where it is thus again brought into union with the acid, which had been separated from the blood in the stomach. These observations, illustrating the importance of common salt in the animal economy, seem to explain, in a satisfactory manner, that instinctive craving after this substance, which is shown by animals.

"Admitting that the decomposition of the salt of the blood,

&c., is owing to the immediate agency of a modification of electricity, we have in the principal digestive organs a kind of galvanic apparatus, of which the mucous membrane of the stomach and intestinal canal, generally, may be considered as the acid or positive pole, while the hepatic system may, on the same view, be considered as the alkaline or negative pole."*

So, in the following quotation, we have the function of the liver and kidneys explained, with the phenomena which result from their perverted action:

"The liver and the kidneys (as well as certain minor glandular appartus) either in virtue of the polar arrangements above mentioned, or of some other (vital) property, must, in a state of health, possess the *function of secreting* from the blood those peculiar principles adapted for their respective operations; and of producing such further changes in them as the animal economy may require. The changes produced by the liver on the principles to be eliminated by that gland, are in some degree of an organizing kind; that is, the principles separated retain some of their vitality for ulterior purposes; while the changes produced by the kidneys on the principles designed to be removed from the system by these glands, are, in a state of health, without exception, of a disorganizing kind—that is, every thing passed from the kidneys is denuded of its vitality, which is carefully retained as it were in the system. The liver, therefore, may be said to possess an *organizing*, the kidneys a *disorganizing function*. This deduction is illustrated by what takes place in the diseases of the liver and kidneys. Thus, when the liver is diseased, its selecting or organizing functions are impaired or lost; and instead of selecting, and further changing into bile those principles, which the welfare of the economy requires should be removed from the blood and employed elsewhere, such principles are retained in the system; or if they do pass through the liver and are separated by that organ, they are imperfect-

* "This notion or opinion, which was first advanced by me many years ago, seems to have lately received some confirmation from the experiments of Matteuci, who found that when the liver and stomach of a rabbit were connected with the platinum ends of the wires of a delicate galvanometer, a deviation of the needle took place amountlng to fifteen or twenty degrees. This action became very feeble, or entirely ceased, after the death of the animal; hence he inferred that it depended on the vital action of the organs, and not on the difference of the chemical properties of their secretions."

ly adapted for their ulterior functions; and thus in both ways great derangements of the health are the consequence.—Again, when the kidneys are diseased, their selecting and disorganizing functions are impaired or lost; and the deleterious principles of the blood, (e. g. the urea) are no longer selected in preference for separation from that fluid; while the superflous or effete albuminous principles, which in the healthy kidney would have been selected and converted into the lithate of ammonia, either remain in the blood, or pass through the kidneys unchanged."

Here we must close our notice of this work. Many subjects have been passed over altogether, while others have been noticed so briefly, that only a very partial knowledge of them can be acquired from this article. Enough, however, has been said to convey to our readers an idea of the scope and character of this treatise on "*Stomach and Renal diseases.*" "Some books," says Lord Bacon, "are to be read—others are to be read and *digested.*" It is plain, that the work before us belongs to the latter class. It is a work to be studied, and one which will amply repay the diligent student for all the time bestowed upon it. The physician in extensive practice, too, will find it most valuable as a book of reference, in many of the obscure cases of disease which he must often encounter. We are glad that a new edition of it has been published in this country, and cannot doubt that it will be eagerly sought after by the profession. No diseases, we believe, have been more neglected by the physicians of our country than many of that important class to the study of which Dr. Prout has devoted a long life; certain, we are, that they have no where been treated with greater clearness and ability than in the volume which embodies his large and matured experience. Y.

Selections from American and Foreign Journals.

Pathological Causes of Cyanosis.—Dr. Craigie has given, in the *Edinburgh Medical and Surgical Journal*, for October last, some very interesting observations on the pathological causes of cyanosis.

"It has been usually supposed," he remarks, "that the open state of the *foramen ovale*, whether direct or oblique, is a primary lesion of the heart, and is pernicious to the patient, in allowing the free intermixture of the blood of the right chambers of the heart with that of the left. Within certain limits this idea is well-founded; and in a certain number of cases, the open state of the *foramen ovale* tends to impede nutrition and to abridge the duration of life. I am, nevertheless, satisfied, both from the facts of the case now related, and several others, of three circumstances; *first*, that the open state of the *foramen ovale* is rarely a primary and solitary lesion; *secondly*, that when it is a solitary lesion it is not injurious, and the venous blood of the right auricle is not thereby necessarily mixed with the arterial blood of the left auricle; and, *thirdly*, that in opposition to what has been hitherto usually taught, the open state of the *foramen ovale* is in a large proportion of cases the means of prolonging life.

"It is unnecessary for me to enter into any formal defence the latter conclusion, which, however paradoxical it may seem, and however opposed to the usually received dogmas, flows almost directly from the facts which may be traced in every case of open *foramen ovale.* That, in short, it is not the primary lesion. From the phenomena of the cases recorded, on the contrary, and from the frequency of the arctated or contracted state of the pulmonary artery, it must be inferred

that the obstructed state of that artery is the primary lesion, and determines not only the open state of the *foramen ovale*, but the hypertrophy of the right ventricle. This is the result, whether the pulmonary artery is only greatly narrowed in calibre, or terminates in a *cul de sac*, or is obstructed by a membranous partition formed by the coalition of the semilunar valves.

"The effect of such an impediment is manifest. The blood cannot pass into the pulmonary artery with the requisite freedom and facility. The result is over-distension, *first* of the right ventricle, and excessive labor of its muscular apparatus; *secondly*, of the right auricle, and excessive labor of its muscular apparatus, with extreme dilatation of its membranous portion; *thirdly*, over-distension and congestion of the whole venous system all over the body. The lungs, meanwhile, receive little or no blood, and, consequently, the blood is not duly aerated or supplied with oxygen, and cleared of carbon and carbonic acid. This is doubtless an evil and a great one. But Bichat has obscurely suggested, and Dr. Williams and Dr. Kay have clearly shown, that dark-colored blood, or that which is venous, is adequate to maintain vital action. It is, indeed, a less evil, and more tolerable than total obstruction in any of the large vessels, and especially in a vessel like the pulmonary artery. Everything that we now know of these cases shows that the obstruction to the circulation through the pulmonary artery must be the main cause of the short and transitory existence of persons laboring under this severe lesion; and that the open state of the *foramen ovale*, instead of being, as William Hunter and other authors imagined, a cause of death, furnishes the only means by which life can be prolonged, while a function so important as that of the circulation through the lungs is impeded.

"I am further entitled to infer from various facts in the history of the development of the ovum, that the obstructed, or it may be, the undeveloped state of the pulmonary artery, is the anatomical cause of the perforated septum, and of the origin of the aorta from the two ventricles when that malformation is observed.

"It would lead to some curious and interesting results to inquire by what means the impeded function of the lungs is in these cases compensated; for that it is compensated by the action of the skin and other membranes, can scarcely be doubted. But this would lead me into a field too extensive for consideration at the present time."

Cure of Hydrocephalus by means of large doses of Hydriodate of Potassa. By Dr. WOENIGER.—A child nearly two years old, of a scrofulous and lymphatic constitution, and who had before suffered from affections of the head and eyes, was attacked in August, 1841, after some days indisposition, with a severe inflammation of the brain. Dr. W. first saw him on the 25th August, when he commenced a severe antiphlogistic treatment; eight leeches were ordered to the back of the neck, and the bleeding from the bites was long maintained; followed by a large blister to the neck, upon which free suppuration was kept up, ice-water in a bladder to the shaved head, mustard plasters to the calf of the legs, and powders of 1 gr. of calomel with jalap, every two hours. Besides this, neapolitan ointment was freely rubbed upon the top of the head and neck.

"No improvement was observed, notwithstanding the continued employment of the above means, and repeated applications of leeches, although several passages from the bowels were obtained. On the contrary, the child grew worse, and on the 5th day, unmistakeable signs of water in the ventricles manifested themselves: namely, fixed and watery eyes, immovable and widely-dilated pupil, entire blindness, tetanic rigidity of the muscles of the neck, retraction of the head, paralysis of the left extremities, deep stupor, pulse slow (50 beats), having before been very small and quick, frequent screeching and vomiting, &c. In this desperate condition, Dr. W. recollecting the recommendations of large doses of hyd. pot. in such cases by Dr. Röser, laid aside all other means and prescribed R. hydriod. pot. ʒj., aquæ distillat. ʒss. of which 40 drops were to be taken every two hours, in sugared water; and on the next day as much as 50 drops each dose. During the first three days no improvement was manifested, but upon the fourth, (the ninth of the disease), there was a decided remission of several of the unpleasant symptoms, and especially a free secretion of urine, which had been very scanty before From this time, and after nearly ʒij. of hyd. pot. had been taken, a rapid improvement was observed, and by the 12th day, the child was considered as cured. It must also be remarked that, at the beginning of the attack, there was observed an extensive, inflamed swelling of almost stony hardness, on the left side of the neck, immediately over the clavicle, which, treated with emollient applications, passed rapidly into a copious and deep suppuration of the cellular tissue. Large sloughs of the cellular tissue were discharged with laudable pus, so that after the entire removal of these,

the muscles of the neck could be seen as if dissected out. The entire healing of this deep wound was completed about the end of September.

Dr. W. thinks, that the hyd. potass. not only produced a critical discharge in the copious secretion of urine, but that it also, perhaps, occasioned a beneficial revulsion by causing the swelling above mentioned to suppurate. He thinks, also, that the mercury which had been taken, may have contributed to produce this favorable result.—*Oppenheim's Zeitschrift, für die gesammte Medicin*, April, 1843.—*Am. Jour. Med. Sci.*

Propriety of operating in cases of Cataract, where only one Eye is Affected.—Mr. Nunneley, of Leeds, has discussed this subject in a paper read before the *Prov. Med. and Surg. Association*, and published in the *Provincial Journal*, Sept., 1843. Mr. N. conceives that the propriety of operating, or not, must be mainly determined by "the state of vision after the operation," for he remarks: "I suppose, although it be granted a person sees sufficiently well with one eye, no one will deny that *cæteris paribus*, two eyes are better than one; and from the well known fact that when the function of any organ or structure is long suspended, the power of exercising the function becomes ultimately lost, it is, as a mere result of precaution, extremely important to keep the affected eye in such a state of activity, that in case any accident or disease happen to the other, its powers, even though somewhat impaired, may then be taken advantage of; which can only be safely and effectually secured by having removed the opaque crystalline lens, and permitted the light to keep up the activity of the retina. The fear of the sound eye being injured or lost by the operation upon the cataractous one, though possible, is, I I consider, hardly deserving of notice; because, when the operation is properly performed, it must be so rare, as to be rather amongst possibilities than the probabilities. While, on the other hand, the sympathy between the two eyes, not only in their healthy states, but in their morbid condition, is so strong that those who have been accustomed to watch ophthalmic affections will at once admit the validity of the argument of removing any diseased condition of one eye lest the other also partake of it, for the singularity is, that when disease exists in one eye, not only is the other apt to become impaired, but for the corresponding structure to assume the very same morbid condition. Thus, if the conjunctiva in one is af-

fected, that of the other is also very apt to assume the same diseased action; if the cornea, the cornea; if the iris, the iris; the lens, the lens; and so on; while it is also incontrovertible that the morbid condition of the eye primarily affected being removed, that of the one sympathetically or secondarily involved is also frequently remedied. Indeed, cases are on record where cataract having been removed in one eye, commencing cataract, or even amaurosis, in the other has been cured; and there must have been many, if not identical, at least analogous, instances. Indeed, in some cases where I have operated upon an eye in which cataract was fully formed, being only in an incipient state in the other, I have strongly suspected the progress of this latter has been much delayed by the removal of the opaque lens of the opposite eye.

"Now, although every one may not be inclined to think the remote risk of the sound eye being lost from injury or accidental affection very great, nor the danger of sympathetic disease so imminent as to justify our incurring any immediate hazard to it by operative interference with the affected eye, yet no person will deny, that if in reality there is no such danger to the sound eye by operating upon the affected one, the possibility of these remote contingencies are solid arguments in favor of active measures being at once resorted to. The last argument, of confusedness of vision being the result of an operation, is so very plausible, and, indeed, imposing, that it is this which has, I presume, principally determined the general practice of not interfering when only one eye is affected, and which, I confess, formerly decided my practice; for I have sent many persons away without doing anything which, with what I have since seen, especially in the three cases to which I shall now shortly allude, I should certainly not do. Indeed, the fact itself that traumatic cataract sometimes disappears, as mentioned by Pott and Hey, as an argument against operating, is, in reality, a strong argument in favor of it; for, if not all, at least in such of those cases where traumatic cataract disappears, the capsule of the lens has been ruptured, and subsequently has been absorbed, thus occurring what it is the object of the operation to accomplish; yet in these cases no mention is made of inconveniences resulting from the cure; and when the lens had been so displaced as to press upon the iris, everybody agrees as to the necessity of manual interference, lest not only the one eye be altogether lost, but the other be implicated in the change."

Mr. N. relates three cases to show that "in point of fact,

the double confusedness of vision, so much feared, does not occur," and concludes that "considering, on the one hand, the ease with which the operation may be performed; the little or no disturbance produced, either to the other eye or general health; that in many cases of traumatic cataract, where the capsule is ruptured, the lens is ultimately removed, even when the surgeon does not interfere; and that what has been so much feared, and in my opinion constituted the only valid argument against the operation, the difference in the refractive powers of the two eyes producing confused or double vision, in reality does not occur; and, considering, on the other hand, the arguments above mentioned in favor of operating, I think we are fairly jnstified in recommending that, not only in traumatic, but in all cases where a young person, one who is under middle age, has cataract in one eye, the lens should be broken up, and removed by absorption."—*Am. Jour. Med. Sci.*, Jan., 1844.

Tobacco in Hysteria and Spasmodic Stricture of the Uterus.—By Wm. B. Diver, M.D., of Cincinnati. In the American Journal of Medical Science, April, 1842, is recorded, a case of Hysteria cured by tobacco. On reference to my note-book, I found recorded, Philadelphia, Dec. 9th, 1841, a case of Hysteria, in which tobacco was used with the most prompt and beneficial effects. The patient was a servant in a highly respectable family in Philadelphia.

I was called to see her, at first, in a very distressing condition from having swallowed a number of large pins, which I succeeded, after a great deal of trouble, in removing from the œsophagus, with Dr. Bond's admirable Gullet Forceps.

Several weeks after the occurrence of this accident, I was again called to see her in violent hysterical convulsions. The spasmodic contractions were so strong as to require the united efforts of four powerful adults to prevent her being injured. The eyes were forcibly drawn towards the inner canthus, so as to present a case of double squinting. The pupils were contracted to a small point, and the iris was insensible to a brilliant light. The tongue was frequently protruded between the teeth, and severely wounded.

After considerable trouble I succeeded in opening a vein in the arm, and abstracted about 16 ounces of blood. This was followed by a temporary cessation of the convulsive

throes, which, however, returned with increased violence, so that the patient was almost entirely unmanageable.

To prevent further injury of the tongue, and to facilitate the administration of medicine, a cork enveloped in the end of a towel was held between the teeth. Large doses of tinct. opii. and tinct. assafœtid. were administered, and attended with but transient effects; the convulsions were returning again with increased violence. In this stage of the case, finding the ordinary antispasmodics unavailing, I thought of using tobacco. I accordingly ordered a poultice of strong Scotch snuff to be applied warm to the epigastrium. Very soon after this application was made, the spasms began to decrease in frequency and violence; the countenance to assume a natural appearance, and after six hours of intense suffering, the patient became quiet and rational.

Several months elapsed before there was any return of the symptoms; then, however, the patient was removed from my observation, and treated with the ordinary remedies.

The utility of tobacco in *Spasmodic Stricture of the Urethra*, was forcibly exemplified in a case, several years before the one just related, occurred.

H. E., a respectable mechanic in Philadelphia, after indulging in venereal excess, found himself unable to void his urine. In the course of 24 hours the bladder became distended, presenting the elastic tumor above the pubis, which is so characteristic of this condition of things.

After ineffectual attempts to force the stricture with a gum-elastic catheter, and in the absence of a silver one, I applied wet tobacco leaves to the inguinal and femoral regions, with the most satisfactory result. The patient soon began to exhibit the peculiar effects of tobacco on the system: and in a little while the spasm became relaxed, the contents of the distended viscus discharged, and the sufferer relieved.

In order to prevent a recurrence of symptoms, a catheter was introduced and secured in the bladder by an appropriate bandage.

If any apology is due for bringing these cases before the profession, it may be found in the maxim—"*Palmam qui meruit ferat.*"—*Western Lancet*, January, 1844.

Diabetes Mellitus successfully treated by Ioduret of Iron.—This case was admitted into the Hotel Dieu, having experienced the premonitory symptoms of diabetes three weeks

previously, which were now completely confirmed; he passed fifteen quarts of urine daily, which contained a considerable quantity of sugar.

The treatment consisted in restricting him to animal diet, the administration of a bottle of claret daily, with a flask of Bagnol's wine, broth without bread, and lemonade, etc., for drink; he also took four pills, each containing five grains of the ioduret of iron, in the twenty-four hours. Under this mode of treatment the quantity of urine discharged soon diminished; after the third day the man passed only twelve quarts; during the subsequent days the quantity underwent a still greater diminution, and the thirst, together with the other symptoms of diabetes, subsided; the urine discharged exceeded the quantity of fluid ingested by about a pint, and contained but a very small proportion of saccharine matter. On the 30th of September he drank about three quarts of tizan, in addition to his wine and broth, and passed four quarts of urine. From the 30th of September to the 4th of October the treatment was continued, (the number of pills being increased to five) and the improvement of the patient kept pace with it; the quantity of urine passed, at the latter date, was nearly normal, and it contained hardly a trace of sugar: the thirst had ceased, the strength was returning, and the patient was enabled to leave the hospital on the 5th of October in good health. He was seen a few days afterward in town, and continued well.

The ioduret of iron must have had considerable effect in this case, as the usual diet of animal food, etc., recommended in these cases, had previously failed in doing good till combined with this medicine.—*Braith. Ret.*, from *Provin. Med. and Surg. Jour.*, Nov. 5, 1842, p. 112.

Magneto-Electricity in various Diseases.—We copy from Dr. Walkly's pamphlet cases of several diseases successfully treated by magneto-electricity.

Amenorrhœa.—H., a young lady, aged 13; has never menstruated, but instead is subject to a cutaneous eruption every fourth week. This commenced three years since, and usually continues from four to six days. Has had an epileptic attack, occasioned by the sudden disappearance of the eruption from the use of cold applications, and also a choreal af-

fection of the left side from a similar cause. May 11th, commenced the daily use of electricity, by placing her feet in a vessel of warm water with one conductor and applying the other to the nerves proceeding from the first and second lumbar vertebra. This was four days previous to the usual appearance of the eruption. The fourth application was followed by the menstrual discharge in the place of the habitual cutaneous affection. No pain of the back preceded its appearance. Since then her general health has been good and her periods regular.

Chorea.—Miss ——, aged about 14, was attacked with chorea of the right side in August, 1842. It was supposed to have been occasioned by fatigue, consequent upon watching in a sick family, and was of a very annoying character. It was impossible for her to keep the affected side and limbs quiet in any position when awake, though the spasmodic action was not usually violent. On the first of October, I commenced the employment of electricity, and continued it with but little success for twelve days. A marked amendment then ensued, which was maintained until the 18th, when she was dismissed from my charge entirely recovered.

Deafness.—Mrs. ——, in the fall of 1840, had an attack of bilious intermittent fever, recovery from which was followed with deafness in both ears. December 23d, 1842, she called on me for a trial of electricity. I made a direct application to the auditory nerves, twice a week for three months, which gradually restored the organs to their healthy state. This continued until September, 1843, when, from another attack of fever she again became deaf. She has been for a short time past under electrical treatment, and her gradual improvement now indicates an entire recovery in a few weeks.

Dysmenorrhea.—Miss ——, aged 30, has suffered from painful menstruation for several years; complains of an almost constant dull aching pain in the small of her back. June 3d, 1843, for the relief of this, made six applications ineffectually. Upon more particular enquiry, found she was subject to habitual constipation. To remedy this, prescribed a mixture of tinct. sem. colchici, 2 ounces; tinct. apocyni, 4 ounces; a teaspoonful to be taken three times a day, alternating every three days, and discontinued the electricity. The daily use of this was, however, resumed on the 28th, and on the 1st of June the menses appeared without dysmenorrheal affection.

The further application of the remedy was omitted, nor has there occurred any occasion for its use since.

Paralysis.—Mr. ——, a painter by trade, from the effects of white-lead used in his occupation, had lost the use of both arms, or rather he had what is termed *dropped arms.* If any thing was placed in his hands, he could grasp it apparently as firmly as ever, but had no further control over them. This situation had continued for several years. June 22d, 1843, I commenced applying to the affected limbs continuous and powerful shocks, twice per day, for about ten minutes each application. The paralysis was gradually removed, and on the 14th day he was discharged from my care entirely restored.

Sulphur Waters on the Secretory Organs.—Between the action of mercury and the more powerful of the sulphur waters on the organic system, the most striking similarity exists. Dr. Armstrong long since remarked the resemblance between mercury and the sulphur waters of Europe, and confidently expressed the opinion that the latter are equally as powerful as the former, in their action upon the secretory organs; and with this very important difference, that while the long-continued use of mercury in chronic diseases, generally breaks up the strength, that of the sulphur waters generally renovates the whole system. Mercury has heretofore, by common consent, been regarded as the most powerful alterative we possess. I am not prepared to dispute this high claim of the medicine, but this much I will assert, as a matter of professional experience, that sulphur water, in my hands, has proved an *alterative* quite as certain in its effects as mercury, though somewhat slower in its operation. Not only so, I believe it to be far better adapted than mercury to a large circle of cases in which glandular obstructions and chronic inflammations are to be subdued. If the claims of the two remedies for preference, were otherwise near equal, the great advantage on the score of safety from the sulphur water, would give it immense preference over its rival. Numerous cases present themselves, however, in which they are used in conjunction to great advantage; where this becomes necessary, however, I have, as a general rule of practice, found it best not to continue the mercury longer than six or eight days: nor is it often necessary to use it continually during that period.—*Boston Med. and Surg. Jour.*, Feb., 1844.

Objections to the use of Pessaries.—The following are the objections to the use of Pessaries, by Dr. Hamilton, long the distinguished Professor of Midwifery, at Edinburg. They are sufficiently intelligible "without note or comment."

Med. Examiner, Feb., 1844.

"Firstly, They can only act as palliatives, whatever may be the degree of the disease.

"Secondly, They necessarily keep up a continued irritation in the passage, and of course excite a mucous discharge from the vagina.

"Thirdly, Unless properly adapted, they make injurious pressure on the contents of the pelvis.

"Fourthly, If not frequently taken out and cleansed, they become incrusted with a calcareous matter which proves highly irritating.

"Fifthly, They subject the patient to the charge of a medical attendant for life.

"And lastly, Cases from time to time occur, where, from the laceration of the perineum, &c., no ordinary pessary can be retained."

Face-Ache.—This common affection, so often supposed to be excited by a diseased tooth, although the latter fails to be detected—a rheumatic, chronic kind of pain, wholly different from that of tic-douloureux,—is often speedily curable by *muriate of ammonia.* This salt should be given in doses of half a drachm, dissolved in water, three or four times daily. About four doses will be sufficient to test the potency of the remedy. At other times the iodide of potassium, in five or six-grain doses, is quickly effective towards a cure. The efficiency of the latter remedy renders it probable that the affection is of the nature of periodical inflammation.

Dr. Watson's Lectures.

The alleged infecundity of females born co-twins with males. Dr. Simpson, in a very interesting paper on this subject, concludes—

"1. That, in the human subject females born co-twins with males, are, when married, as likely to have children as any other females belonging to the general community.

"2. That, when they are married and become mothers,

they are, in respect to the number of their children, as productive as other females.

"3. That the same law of the fecundity of the female in opposite sexed twins seems to hold good among all our uniparous domestic animals, with the *exception* of the cow alone."

Ed. Med. and Surg. Jour.

Sign of Pregnancy.—The surest token of pregnancy, says Dr. d'Outrepont, is a *dark-bluish hue* of the vaginal mucous membrane, a symptom which is more valuable inasmuch as it is not evanescent or confined to one period, but continues from the period of conception to that of labour. Dr. d'Outrepont has not only met with this appearance uniformly in the human subject, but in different animals which he examined in every period of pregnancy, and which he destroyed to ascertain that no fallacy attended the suspicion of gestation.

Nene Zeitschr, fur Geburtsh, xiv., 3.

THE WESTERN JOURNAL.

NEW SERIES.—VOL. I.—No. III.

LOUISVILLE, MARCH 1, 1844.

MAGNETO-ELECTRICITY IN DISEASE.

The readers of this Journal will remember a reference, made in a former number, to the success of Dr. Walkly, of Tuscaloosa, Alabama, in the treatment of various complaints by *magneto-electricity*. We received from Dr. Walkly, a short time since, a pamphlet, of nearly sixty pages, giving a history of fifty-six cases in which he applied this agent with decided benefit. His experience in the use of the remedy has now extended through upwards of two years, in which time he has tried it in cases of rheumatism, paralysis, leucorrhœa, dysmenorrhœa, amaurosis, epilepsy, hysteria, intermittent fever, neuralgia, and amenorrhœa. Of the latter complaint Dr. W. says, his journal contains a record of *forty* cases, "all of which have been successfully treated by means of electricity, and in a much shorter time than under the usually prescribed course of medicine." One or two applications, just before the expected period, generally brought on the catamenia in recent cases of dysmenorrhœa. He has not seen mischief result from the application of electricity,

where the suppression depended upon pregnancy, in two cases of which he resorted to it without suspecting that pregnancy was the cause. His practice is to pass "a rapid succession of shocks through the uterus, until pain is felt in the lumbar region, and this is induced in from five to ten minutes by placing the negative electrode directly above the pubis, and the positive to the spinal nerves of the lower lumbar vertebræ." Another mode adopted by many, which has some advantages, is to place one conductor in a warm bath in which the feet of the patient are immersed, and the other to the back of the neck.

Dr. Walkly's success in the employment of this remedy seems to have been decided. In seven cases of amaurosis, out of eleven, he states that the relief from it was complete, one was benefitted for a time, and only three remained unimproved. He reports cases of *angina pectoris*, without, however, insisting upon the diagnosis, which he cured by electricity. Asthma, also, it seems, has yielded to its influence, and that too where the disease had been of long standing. "I have," he says' "treated eleven cases of *chorea*, all of which were cured, with a single exception. No other remedy was used, except occasional aperients." Out of seventeen cases of *deafness* in which he resorted to it, eight are said to have been entirely relieved.

This, certainly, was extraordinary success, and if anything approaching it can be attained generally, magneto-electricity must soon come to be regarded as among the most efficient of our curative measures. Making all due allowance for the ardor of one who, probably, is riding his hobby hard enough, we are inclined to give great credit to Dr. Walkly for the perseverance with which he has applied his favorite remedy to so many forms of disease. Nor can we close this notice without expressing the hope, that others will engage in the same interesting field of experiment.

Excellent magneto-electrical machines are made in this city by Mr. Jacob Walter & Son. Y.

MEDICAL INSTITUTE OF LOUISVILLE.

Dr. Cooke, as announced in our last number, having resigned, the Managers of the Louisville Medical Institute have united the chairs of Theory and Practice, and Pathological Anatomy and Clinical

Medicine in one professorship, under the title of "*Pathology and Practice of Medicine,*" to which Dr. Drake has been appointed. The Institute has now the number of professors usual in the medical schools of this country.

At the late annual Commencement, the degree of *Doctor of Medicine* was conferred on forty-seven young gentlemen. The honorary degree of M. D. was conferred on Dr. Charles G. Ballard, of Green Castle, Indiana, and on Dr. Silas Ames, of Montgomery, Alabama. Y.

SUMMER COURSE OF MEDICAL LECTURES.

Several members of the Faculty of the Medical Institute have associated themselves with a number of the physicians of Louisville, for the purpose of conducting a course of Lectures in the city, on all the departments of medicine, during the summer. The course will commence on the 1st of April, and be continued until the 1st of November, with a vacation during the months of July and August. An excellent opportunity will be afforded by the course to students for acquiring practical knowledge, of which it is expected that many will avail themselves. Y.

PARIS' PHARMACOLOGIA.

A new edition of this work, which has been so long one of the great favorites of the profession, has been published by the Harpers, of New York, in a single volume, having been re-written by the author to bring it up to the existing state of the science. Not a word in commendation of it is necessary, and we only notice it now to give information to our readers, that this new edition places the work within their reach. The present is a re-print of the ninth London edition. The fundamental doctrines of the work remain as at first announced, but, says the author, "so rapid and extraordinary has been the advancement of every branch of science during the last ten years, that its very language has become obsolete; a new Pharmacopœia had appeared during this interval, enriched with newly-discovered substances and novel preparations, and with a nomenclature radically changed. The science of chemistry had also, by the aid of quantitative analysis, assumed a new aspect; so that it was impossible, without remodelling the whole work, to render it consistent

with the science of the day." By the performance of this necessary task, Dr. Paris has not only kept his work from becoming obsolete, but brought it before the public in a shape which will continue it for a long time in the hands of those who are studying "the theory and art of prescribing."

The work is for sale at the bookstore of Messrs. Morton & Griswold, in this city. Y.

MEDICAL DEPARTMENT OF THE ST. LOUIS UNIVERSITY.

The newspapers of St. Louis report an unfortunate occurrence, as having taken place in regard to this school. It seems that a vault, containing subjects for dissection, was broken open, and a body partly dissected taken out, and left exposed upon the commons. A mob was the consequence: the college building was attacked; the windows were broken, and the museum pertaining to the school destroyed. The latter is represented as a great loss, many of the articles having been obtained from Europe at considerable expense, and others, prepared in this country, having required much time and labor in their preparation. All, it is stated by the newspapers, are destroyed or carried way by the mob. This is an occurrence deeply to be deplored. Such movements are contagious. They who have the supervision of anatomical affairs in schools of medicine cannot be too careful to avoid every cause which might provoke a similar outbreak of popular vengeance.

Since writing the above, we have received a paper containing a notice of Professor Linton's valedictory address, delivered to the graduates of the institution, eleven in number, on the last evening of February. No allusion is made in the address to the recent losses, but promises are made of large additions to their means of instruction before another season. The commencement was announced in the papers of the city, and went off quietly, the populace having, apparently, been appeased by seeing interred in the city cemetery the *debris* of the dissecting tables and anatomical museum. Y.

MAGENDIE'S PHYSIOLOGY.

We owe a copy of this work, a new edition of which he has given to the public, through the Harpers, to the politeness of the editor, Professor Revere. Magendie is one of the most distinguished of living physiologists, and his work has this excellence, that it is not a mere summary of the doctrines and doings of other men in this department of science. He is an original investigator, and in regard to the performance of experiments on living animals has surpassed all other physiologists. In fact, he has been thought to have carried these experiments farther than humanity justified, or the interests of science demanded. But it cannot be denied, that his untiring industry in the prosecution of such researches has enlarged the science of physiology, and contributed to the revolution which it has undergone, on many points, since the first edition of his Summary was published. As remarked by the editor, Magendie's work has this other adimirable feature, that it pursues a "severe system of induction, excluding those imaginative and speculative views, which rather belong to metaphysics than physiology." The style, as that of such works ought to be, is concise and perspicuous, its descriptions are marked by clearness, and its well-arranged matter is brought within the compass of a single volume of moderate dimensions.

The book is for sale at the store of J. Maxwell, jr., and of Morton & Griswold, book-sellers, in this city. Y.

MEDICAL SCHOOL CATALOGUES.

We have before us copies of the catalogues of the Medical Schools of Lexington and Louisville, for the sessions just terminated. The Lexington catalogue contains 214 names; that of Louisville 242. The names of 19 resident graduates—*M.D's.* as they are styled—appear in the catalogue of the Lexington school, and but 5 in the catalogue of the Medical Institute of Louisville. Deducting the M. D.'s from each catalogue, the class at Lexington would remain 195, and that at Louisville 237. The Medical Institute, consequently, had more students, by *forty-two*, in attendance on its last course of lectures. It appears, from the catalogue, that the Lexington school, during the first seven years of an eminently prosperous career, attracted 1154 pupils. In the seven years during which the Institute has been in operation, the aggregate of its classes has amounted to 1305, or 151 more than the University. Y.

IMPEACHMENT OF PROFESSOR HALL, OF BALTIMORE.

We learn, from the Boston Medical and Surgical Journal, of the 28th of February, that the difficulty among the medical professors of the University of Maryland, last season, led to an impeachment of Professor Hall. He was charged with not properly sustaining the chair of which he had been so long the incumbent, with an unwillingness to pay old scores, &c. A very stout pamphlet, it seems, has been published by a committee appointed by the Regents, setting forth the testimony "in the Matter of the Impeachment." And the result of the whole matter is, that Professor Hall stands his ground "as popular as ever, and as obnoxious too." The charges, according to the evidence, were not sustained. The class in the University is reported to have been larger, last winter, than usual.

Y.

BOOKS RECEIVED.

We have received from the publishers, through Mr. Maxwell, Cooper's great work on *Hernia*, and Condie on the *Diseases of Children;* from the author, Dr. Stewart, *The Hospitals and Surgeons of Paris*, through Messrs. Morton & Griswold. The latter have also presented us Kennedy's *Obstetric Auscultation*, edited by Dr. Taylor, and published by the Langleys, New York. These are all valuable books, and will be noticed by us in due time.

C.

THE

WESTERN JOURNAL

OF

MEDICINE AND SURGERY.

EDITORS.

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THE

WESTERN JOURNAL

OF

MEDICINE AND SURGERY.

APRIL, 1844.

ART. I.—*Speculations on the Facts presented in the Analytical Report on Mesmeric Somniloquism, published in the last number of this Journal.* By DANIEL DRAKE, M.D.

The estimate of the phenomena of Mesmerism, by different minds, presents us with examples of the easiest credulity, and the most obstinate unbelief, not less than a reasonable scepticism. This ultraism has arisen from want of analysis. Among the phenomena there are some, which have their prototype in nature; others which have not. To indulge a spirit of infidelity in regard to the former, is quite as absurd, as to cherish credulity in reference to the latter; and still, many persons have grouped the whole, and affirmed or denied their truth

en masse. A rational scepticism will not admit the reality of the lowest, without evidence; nor refuse to grant that the highest and most startling *may* be true. It will, however, demand for the latter an amount of proof far greater than for the former—an amount corresponding with their wider departure from the observed and ascertained phenomena of nature. Of the two classes of phenomena, presented by mesmeric somniloquism, one bears a close resemblance to those which characterize natural sleep-talking—the other are not yet known to belong to that state. Now the degree of proof on which we may admit the former, is much less than would justify our admission of the latter. Let us inquire separately into their claims on our belief.

The lowest degree of natural sleep-walking and sleep-talking, is that in which the individual while in ordinary sleep, may strike at an imaginary object, or sit up in bed, or pronounce a sentence, as asking or answering a question—uttering an exclamation, or giving a command. In a higher degree, he will rise and walk about, or, continuing in bed, carry on a conversation with an imaginary person, or sing or declaim. When up, he will wander among objects in the dark without encountering them, even when blindfolded; and should he undertake to perform a work which is generally directed by the sense of sight, he appears to be capable of going on with it, while screens impenetrable to light, are interposed between his eye and hand. At other times he uses light, or *seems* to use it, and has been known, when his candle was snuffed out, to re-light it, and then proceed with his manipulation. Sometimes he stumbles over objects to a degree which indicates that he does not recognise them, and occasionally mistakes one for another. In this state, whether silent or talkative, he is generally inattentive to what is said to him, and even to the loudest noises, as he is insensible, in a great degree, to bright lights, to strong odors, and to impressions, whether painful or pleasurable, on his nerves of feeling. But, every now and then, he will unexpectedly address himself to an attendant, whom he had immediately before refused to re-

cognize; and in other instances, after many questions had been asked without answers being returned, he has made a distinct reply. Whether he himself had put the question or made the reply, the individual thus recognized may generally, thenceforth, maintain intercourse with him, and more or less control the current of his thoughts and actions. This condition is often brought on by a slight degree of bodily indisposition, by a supper of indigestible food, by a previous highly or painfully excited state of feeling, or by remarks and questions patiently whispered in the ear. Occasionally we find it to affect several members of the same family. From this condition the patient may be aroused, but often returns to his bed, and the somnambulic gives place to natural sleep. Whether he awake from one or the other, he has, in general, no recollection of any thing but a dream. Hence somnambulism and somniloquism, have been defined to be dramatised dreams. The dream is often recollected, but in many instances, as in common dreams, it cannot be recalled. It is probable, that in these dreams, although the imagination of course is active, as in all cases of dreaming, the comparing or reasoning powers are more awake than in ordinary dreams, which are too inconsistent and disjointed to prompt to any kind of action; in proof of which, I may refer to the practical ability displayed by many somnambulists, who pass uninjured through difficult and perilous places, though, sometimes, they destroy themselves by deliberate acts, unaware of the danger before them; but the activity of the reasoning faculties is occasionally evinced, in a still more conclusive way, by their literary compositions, and the mathematical solutions which they have been known to work out. Such dreams bear much resemblance to monomania, or derangement on one subject; while ordinary dreaming has, in its incoherent, grotesque and ever-varying creations of fancy, a close resemblance to general mania, in which the mind does not associate well, is not fixed on any single group of ideas long enough to compare them; and of course the body, although agitated, is not prompted to any definite or sustained mode of action. In the ab-

sence of all fixed purpose, there is an equal absence of defined and efficient execution.

There are two modifications of somniloquism and somnambulism which should be recognized in this inquiry. The first is the reverie, which sometimes alternates with convulsions, in which the individual displays a strong current of connected thoughts with appropriate feelings, accompanied with suitable action; but is wholly inattentive to all surrounding objects or persons; except when they, or what they say, can be incorporated with the catention of ideas. This state of mind is generally of short duration. The second may be called a protracted reverie, or prolonged somnambulism; continuing for days, and even weeks, during which the individual will act and converse with those around him, in an altered manner. and not in full sympathy with them. In coming out of this condition, the mind takes up the ideas on which it happened to be occupied at the access of the paroxysm; and is unconscious of its having existed; indeed, may remember no part of it; but upon the return of the fit will recollect the whole.

The principal characteristics then, of ordinary somnambulism and somniloquism, including, in part at least, the curious varieties just mentioned, are the following:

1. They occur chiefly in young persons of both sexes. in those of a delicate nervous system, and in connexion with bad health.

2. In some cases, the sense of sight seems to be greatly increased in acuteness. or that of feeling, or the instinct of the individual in some mysterious way. is substituted for it.

3. There is great abstraction. The attention of the person is entirely concentrated on the train of thoughts which is passing through his mind; and he is. consequently. insensible to what is around him, and even to violence on his body. But if, by chance or perseverance. his attention should be gained. he may in general be guided both in his thoughts and actions. His state of mind may be modified without his being awakened.

4. There is a spontaneous. inherent activity of imagination.

which excites into action the muscles of locomotion and speech.

Let us now compare mesmeric, with natural somnambulism and somniloquism.

1. It is chiefly producible in children and young persons of both sexes; in individuals of frail and susceptible nervous systems; and in natural sleep-walkers, or members of families in which somnambulism prevails.

2. Of all the alleged phenomena of this state, none have excited more wonder, than those connected with the sense of sight; which has been said to be greatly increased in acuteness, and even transferred from the optic to other nerves. This is the *clairvoyance* of writers on mesmerism.

3. In this condition, the abstraction of mind is so great, that the individual is inattentive to impressions which in the waking state would give acute pain; and cannot be spoken with, except by the mesmeriser, who had her attention from the beginning, or by persons introduced by him.

These analogies between ordinary, and mesmeric somniloquism, if not overcome by a greater number of differences, must lead to the conclusion, that they are but varieties of the same curious condition of the nervous system. Now what are the contrarieties? They seem to me to be the two following: 1st. The mesmeric state is more cataleptic—attended with less locomotion, and displays much less of a somnambulic character. 2d. It is attended with less talking, the individual seldom speaking except when spoken to, then generally answering in a single sentence, and relapsing into silence. From these two facts we may conclude, that the mind is inactive, that the animating dream is wanting, and, of course, there is absence of spontaneous walking and talking. If locomotion and loquacity were added, by an active instead of a passive state of the imagination, the two conditions—ordinary and mesmeric—would appear to be identical.

There is then no credulity in admitting the reality of mesmeric somniloquism; and although, no doubt, it is often simu-

lated for gain, I am disposed to regard it as a fact, and reason upon it accordingly.

It is affirmed, however, that a peculiar sympathy of both body and mind exists on the part of the mesmeric somniloquist with the mesmerizer and those introduced, or as the technical phrase is, put in communication. But this sympathy is not reciprocal. It is confined to the somniloquist, who, it is asserted, can be made to experience the same feelings of both body and mind, and entertain the same thoughts, as the person in conversation with her, and this in some unknown manner by some occult influence, altogether independent of the ordinary means of intercourse by the senses. Let it here be particularly noted, that it is not a stimulation of the body or mind of the somniloquist into increased activity, her own sensations and thoughts being the objects of her consciousness; but an actual infusion of the feelings and thoughts of the person in communication, at the expense of those belonging to the somniloquist, and that, too, to such a degree, that if she had pleasurable sensations of the body before, she would, in the midst of them suffer pain, if his body were wounded; and although she might retain her own consciousness so far as to understand and answer questions, put to her through the medium of the ear; still that her predominant ideas are those impressed on her mind, which arise simultaneously with their origin in the mind of the person who is in communication. This is the mysterious and incomprehensible mental state of the mesmeric somniloquist, and to the ascertainment of its reality, the experiments of the association were directed.

Before proceeding to speculate upon them, we must refer to what seems to us almost an insuperable difficulty.

The proposition is, that the person in communication raises in the somniloquist a state of mind identical with his own: if so, how can conversation be maintained? Will he not supply the answers as well as the questions? And as long as he remains in communication, how can the somniloquist have any thoughts of her own? Or how can she have them at one moment, and not at another when the stream of influence is per-

petual, seeing that it is not under the control of the will, and that the person in communication thinks incessantly? In ordinary circumstances when a question is asked, the person to whom it is put, is left to frame the answer according to the laws of his own mind, and the kind and amount of his own knowledge; but in the case we are considering, nothing is spoken, nor is there any effort made by the person in communication, except that of thinking with energy. When he has done this for a short time, he wishes to know its effect, and then frames and puts the question; but in doing this, his state of mind necessarily changes, and he becomes attentive to the expected answer. Now how does it happen, that this new state of mind is not impressed on that of the somniloquist, like that which immediately preceded it? But if impressed, it must bring hers into the same condition with his own, that is, waiting for a reply, and of course she could not make it: if not impressed, it is certainly an argument against the infusion into her mind of what he first thought over. The alleged ability of the somniloquist to give an account of her consciousness, while the person remains in communication, during which, according to the terms of the case, she has *his* thoughts, is, then, a paradox, and seems to be an absurdity.

I will not, however, dwell on this difficulty, but proceed to state and discuss the subject of intellectual sympathy in as fair and candid a manner as possible.

The proposition is, that when a person is put into communication with one who is in mesmeric somniloquism, a secret agent or influence passes from him, and raises in her perceptions and thoughts identical with his own; the evidence of which is furnished by the answers which she gives to the questions, which are put to her by the mouth through the ear. The point I mean to discuss is, whether, in reference to the report I am reviewing, it is necessary to adopt the theory of a mysterious agency, to account for the true or conformable answers it contains. I shall *assume*, not affirm, that it is not, and proceed to suggest how most of her answers might have

been brought out, according to the established laws of the human mind.

It is an undeniable fact, that a mesmeric somniloquist is not asleep, nor in delirium, insanity or idiotism, but in an extremely passive and quiescent state of mind—not so sluggish and insensible as not to comprehend a question, but too torpid to put forth mental manifestations, without its stimulus. And herein lies the most obvious difference between her intellectual condition and that of a natural somniloquist, who is made to walk and talk, by the quickening impulse on his organs of locomotion and speech, of a dream or a reverie, the essence of which is an excited imagination. What such an one, (the natural somniloquist), sees, is of course the creation of his own mind; what he does is prompted by his dream. The current of his thoughts is strong—too strong, in most cases, to be interrupted, and the individual who happens to get into communication with him, will, in many cases, be compelled to go with the current, or part company; sometimes, however, he may get the mastery, and by his questions and remarks turn the stream of thought into other channels. The mind of the mesmeric somniloquist, like stagnant water, is without this current, but is capable of being excited by external influences, as the pool may be agitated by mechanical force. According to the nature, direction and mode of the action of this force, the undulations and currents established by it will vary; and in the same way, when the external influences, the remarks, and interrogations, which are brought to bear upon the mesmeric somniloquist may vary in their substance or manner, they will raise in her a variety of mental conceptions: stir up her imagination to various creations. Of these creations she is immediately conscious, and her replies express that consciousness. Thus the question itself is what arouses her imagination, and the answer announces, not what existed in her mind by secret infusion previously to his putting the question, but what was created between the time of hearing the interrogatory, and sending forth the reply. Hence the necessity of a lapse of time between the question

and the answer. In the beginning of a conversation this is sometimes to be counted by minutes; but after the image of a particular object is once formed in the mind, the answers concerning its properties and parts, are obtained in more rapid succession; because when the imagination has once decided on the object, the various characteristics of it may be created instantaneously, as in the waking state, and still more in dreams. The chief difficulty lies in getting it to decide. Sometimes, however, this may be instantaneous, because what is said may suggest some object or several, one of which, according to the laws of suggestion will, *instanter*, be adopted. Thus, to come to the facts of the Report, when Mr. C. D. asked, what have I in my hand? a horse, a man, a landscape, a boat, and all other objects not capable of being held in the hand, would be instantly rejected, and the imagination would only have to select out of those which could be grasped. In doing this it would of course choose one that was familiar, because familiar ideas would first come up. Hence, although the somniloquist might have heard of, or occasionally seen, a Hindoo idol, a pine-apple, a pocket-compass, or a silver lancet-case; neither of these objects, under the laws of mental association, could present itself to the exclusion of the objects with which her mind was previously familiar; and hence she answered "a book," and, under a series of questions which did not deny the truth of her answer, described it as such; although what he held and saw, *was* a silver lancet-case. Again. When Mr. I. J., while looking at a book, as a first question, asked her what she saw, she answered "a building;" but when he asked whether he held anything in his hand? she answered something white; and under a series of questions, concerning its properties, at last had the true image raised in her mind, and it seemed to her like a book. Further, when Mr. K. L. asked her to visit England with him, it was not at all probable that after having, in imagination, reached that country, she would on being questioned see a watch in his hand, or the interior of the Mammoth cave, or a group of Indians, but some object, of which she had heard or read, as attracting

the attention of travelers, in that country, and, almost, as a matter of course, her imagination presented her with the image of an old stone church, of a peculiar kind. Further still. When Mr. G. H., without having directed her attention to any foreign place, proposed to take a walk and see fine things, her imagination would not present the scenery or objects of distant lands, nor the people, and drays of the streets of Louisville, but some object belonging to the class of pleasant sights, and it fixed on a large building; and when he asked, what of the top? her imagination was so directed, as to present a spire, the object present in his mind, and quite familiar to her own from being seen every day. Again. When he asked her to cross the mountains with him, it would at once raise in her the idea of objects on that side; of which the most impressive are in its sea-ports, and instead of seeing cotton fields, the ruins of Panama, or a book, she would of necessity, the laws of mental suggestion being in force, see something which belongs to the region where in imagination she had gone; and that something was a building, not very high nor very low, with columns; although the Washington monument, at Baltimore, was in his mind; and when he asked what was to be seen from the top of it, her fancy would not be likely to picture a cat or a snuff box, or a painting, but to create, as it did, a panorama of hills, water and houses. When Mr. C. D. asked her what she saw, she promptly answered a large house, which was correct, and when he inquired, what peculiarity? she answered columns, which was likewise correct. What, at that moment, determined her mind to fix on a building, cannot be known, any more than we can know what suggested to her the same object, while Mr. I. J. was looking at a Hebrew bible, and Mr. G. H. thinking of a human skull. Such answers as the latter relieve us from the necessity of concluding, that Mr. C. D. had sympathetically impressed her with the image of a building; from which we are still further relieved by the fact, that her imagination immediately entered the house which it had created, and consistently presented her with rooms, and persons standing,

walking and sitting; though Mr. C. D., mean while, had, in imagination, descended into the Mammoth cave, and was threading its strange labyrinths. Had he, in thought, gone into the house instead of the cave, her answers would have had such conformity to the topic in his mind, as to favor the idea of a transfusion of ideas, while it would have been but an accidental coincidence. As long as the gentlemen in communication kept themselves in the midst of common scenes and familiar objects, these coincidences would, of course, be frequent; but when they recollected others, of which she was ignorant, her imagination created little or nothing that was applicable to them. Thus, when Mr. C. D. as just mentioned, reproduced in his mind the interior of the cave, as Mr. M. N. before him had done; when Mr. E. F. recollected a steam-boat scene on the Northern Lakes, and a walk on Santa Rosa Island in the Gulf of Mexico; when Mr. O. P. took her into a Rolling mill; when three different gentlemen conducted her to the anatomical lecture-room of the Institute; and when Mr. C. D. ascended the Ohio river in a skiff, on a fowling voyage, she saw nothing that indicated the slightest sympathy with them. The state of mind in which her answers were framed, may be compared to that of young persons in the play—*What are my thoughts like?* The young lady to whom the question is put, if she know nothing of the habits of thought, pursuits or character of him who puts it, exercises her imagination in framing the answer, entirely on her own knowledge, and often finds, as all who have engaged in this intellectual pastime know, not a little difficulty in settling upon any thing. If the gentleman were, at the moment, thinking upon some strange or distant object, of which she knew nothing, her answer would have no relation to it, but if he kept himself within the range of those scenes and objects with which she was intimate, and out of which she must of necessity frame her reply, it would often happen, that she would seem to have apprehended his thoughts.

It is easy on this theory to explain why the somniloquist so often answered, "persons," and "houses," and "water," when

they really made a part of what was recollected by those in communication with her. The first she announced, correctly or incorrectly, about 30 times, and they were embraced about as often in the topics thought over by the gentlemen. The second occurred 24 or 25 times, and were presented about as frequently by those who were in communication with her. Of the third nearly the same might be related. Persons and houses, or buildings and water were, indeed, more common in the subjects chosen for our trials with her, than any others. Now, why did this happen? Undoubtedly, because those objects are so common—because we are social and domestic beings; and in setting our imaginations to selecting or inventing topics, they would naturally, that is according to the laws by which our thoughts are associated, fix on scenes and objects of a familiar kind; and the same would be true of her; for if her ideas had not been governed by the same laws of suggestion as ours, we could not have held conversation with her. Such being the fact, when her drowsy attention was awakened by the question—*what do you see?* her imagination if *it* framed the answer, would of necessity, and for the same reason as in our waking hours, present her with those common objects. And not *only* for the same, but the additional reason, that she, being a woman, had been all her life essentially domestic—residing in the midst of houses and people. It is worthy of remark, that in many of the instances in which the objects just named, made a part of the scenes presented by us, they were not those on which our minds dwelt with *most* intensity, but merely constituted the necessary accompaniments of the scene, or were the actors in some operation which we thought over; but with her, instead of being subordinates, they were principals. Why, however, if her mind had sympathized with ours, should she not have passed *by* the houses and spectators, and spoken of the curious objects and doings, which occupied *our* imaginations? On the theory of her answers being the product of her own imagination, thrown into activity by the questions, this paramount reference to houses and persons is fully explained; while it is ut-

terly incompatible with the hypothesis of transfusion. On the same theory, had she been the somniloquent daughter of an Arab Sheik, she would have seen tents, and horses, and camels, and long beards, for *they* would have been her familiars. Now, if we reduce the number of conformable answers, in which persons, and groups, and water were the objects, and other things, equally or more impressive contained in the groups, were omitted, to their proper level, that is, until they shall bear a due proportion to the rest of her conformable replies, a number of the most correct will be set aside. But on what principle should this be done? I answer, that whenever it is obvious, that other things or operations, must have been equally or more vividly present in the mind of the gentleman, than persons, and houses, and water, but *she* did not see them, her mentioning the latter is no evidence of mental sympathy or transfusion, for if the fainter ideas of the gentleman could be impressed on her mind, his vivid thoughts would much more certainly impress themselves. There seems to me to be no escaping from this conclusion. A few examples may make the argument plainer. We have already seen, that when two gentlemen made their ideal visits with her to the Mammoth cave, she saw houses and people, but she saw nothing in the cave, although its impressive effect on their own minds, at the times of their actual visits, must have enabled them to recall its grotesque alcoves, snow-white stalactites and brilliant torch lights, far more vividly than the boarding-house at the entrance; which interested them no further than as a place of repose and preparation for the thrilling scenes of their subterranean visits. Again: At Colonel Thompson's she saw rooms and people, but why did she not more clearly perceive the blooming green-house, so strikingly contrasted with the desolate winter scenery of the surrounding woods and fields? Again: At the bull-baiting in England, she saw people, but not the object that brought them together, until she was asked if she saw any beasts. Further, when three gentlemen at different times conducted her to the amphitheatre of the Institute, she saw a room and persons,

but did she see the striking objects peculiar to the place? Certainly not; and still it was to show her *them* that she was taken there. When two gentlemen thought over the scenes in the public lecture room, where she had been exhibited, she saw a house and people, but perceived nothing of the operations which were recalled by them. Finally, when conducted to the church in Cincinnati, she spoke of a house and people, but saw nothing of the picturesque and impressive ceremony, which made the essential part of the scene. These cases might be greatly multiplied, and it seems to me that a sound philosophical logic rejects them all, as instances of the transfusion of ideas into her mind. If not, it follows, that she sympathizes more with the weaker than the stronger recollections of the person in communication, which is equivalent to saying that the feeble is more powerful than the strong—the less superior to the greater—a part larger than the whole.

According to the views which I have presented, the questions put to her, both occasion the creations of her own imagination, which are what she sees, and call forth an expression of them in her answers. I wish the reader not to lose sight of this proposition, but, remembering it, to proceed with the me still further, in the inquiry how far, as a theory, it will explain the facts before us.

All our intercourse with her convinced us, that she was in a drowsy, inert, and feeble state of mind, especially in its reasoning faculties, or else affected it. We have assumed the former. Now, to such a mind, the stimulus of a question is like a galvanic shock to one apparently dead, which excites a momentary, convulsive and irregular action of the muscles. The weaker and more quiescent the mind, the greater is the power of another mind over it; when exerted in the common manner of remark, command or interrogation—in other words, the more will it be directed and moulded:—The less its inherent energy, the more will it be indebted to external influences for its activity; and the more will that activity take its coloring, form and character from

those influences. That *her* mind was susceptible of being thus influenced, is evident from many parts of the record, and is a fact admitted by all who have conversed with her. But I need not rely exclusively on the late experiments for proof, that the question, and even the manner of expressing it, as well as the previous remark, will influence the reply; for in the Western Journal for June, 1842, there is a report of a series of experiments on corporeal sympathy, made in Cincinnati, in the presence of many respectable witnesses, which conclusively shows, that by varying the questions, or introducing them with different prefatory remarks, the same water and the same bread and meat, were made to have, respectively, many different tastes, and to be a variety of things, according to the varying creations of the imagination of the somniloquist. Such results would seem to show conclusively, that the answers do not express the ideas of the person in communication, secretly imparted, but the *effects* of *his* conversation and questions on *her own* imagination. The things seen by her are inherent—not transfused. She is *acted on by*, but does not *sympathize with* her companion. She sees what she would not see but for his influence; but she does not see what he sees, except by accidental coincidence, or except his questions or remarks be so framed, as to cause her imagination to bring forth the likeness of what is in his mind. That this may be done in the waking state, any two individuals may satisfy themselves by experiments of the kind made on her; but if practicable in that state, it may, *a fortiori*, be done in the mesmeric slumber, when the judgment is inert, the will nearly annihilated, and the external senses inattentive; when she is acted on, it is said, by no voice but that of her companion, and, as far as observation instructs us, has no mental activity but what his voice inspires.

If this theory be correct, it follows as a consequence, that a mesmerised somniloquist, may, by a protracted and skilful course of interrogation, be made to see almost any object which the person in conversation may choose to select; and this we may presume is the key to the striking results which

are often obtained in public exhibitions. Those who engage in these exercises, although unskilful in conducting a course of interrogation, designed to reveal the true character of the mental state of the somniloquist, are instinctively qualified to bring out striking results. They feel, that courtesy and fairness require, that they should, by their questions, not mislead the somniloquist, but rather afford her some general intimation of the locality or nature of the scene or object they have in view; which intimation being given, and followed by questions on the details, they set her imagination to work within the prescribed field, and at last are astonished at the creations, which, under their own dictation, it presents to them—creations that sometimes even go in advance of their own minds, which come in turn to be led by the somniloquist. An examiner of this kind, is in the condition of a man, who, in a dead calm, might approach an Æolian harp, to hear its whispering melody, and mistake the music struck out by his own breathings on its strings, for that of breezes, too gentle, as he would believe, to be perceived.

A comparison of the instances in which the same scene or object was, more than once thought over by some of us, while in communication with the somniloquist, gives results at utter variance with the hypothesis of transfusion, but in harmony with that of interrogation. It will be seen by reference to the Report that Nos. 2 and 9, Nos. 4 and 21, Nos. 6 and 36, Nos. 12, 13 and 14, Nos. 15 and 16, Nos. 19, 40 and 50, Nos. 37 and 45, Nos. 38 and 46, and Nos. 39 and 47, were respectively the same topics; and on the hypothesis of mental sympathy, her account of each, as given to different gentlemen, or to the same at different times, should have been substantially the same. An examination of her answers under those different heads shows nothing of the kind. On the contrary, it is obvious at the first glance, that in all these cases, her own imagination created her answers. This may be affirmed with the more confidence from the fact, that these were not trials to see if she would answer in the same way, when questioned by different persons concerning the same

scenes, for the fact of gentlemen having selected the same, was not known even to themselves, till the experiments were completed. Of the whole, certainly none are more important than these, which are not unlike the cross examination of a witness in court, or the *experimentum crucis* of the philosophers. They rest as a dead weight on the hypothesis of mental sympathy, but give a living support to the theory of interrogative stimulation.

There are other ascertained and admitted facts, which have the same bearing, two of which occur to me at this moment. One is, that the alleged mental transfusion is interrupted when the visiter, in communication, puts his question; but this could not be the case if the question did not modify the state of her mind; the other is, that by cross questioning, her mind may be misled and confused, so that she loses the whole or a part of what has been said to be transfused, and, therefore, gives vague or erroneous answers. Now what is all this, but to elevate interrogation over transfusion, as a means of securing her attention and creating new states of mind? But if interrogation have in it this paramount power, why not deduce from it all the results, seeing that it *may* be so conducted as to direct the attention and guide the imagination, even in the waking state? A cause adequate to the production of a phenomenon being discovered, it is not only superfluous but unphilosophical to look for another. It is even absurd, if that assigned be a reality, and one which the mind can appreciate, to propose another that is at once hypothetical and incomprehensible. But I must not dismiss the subject of interrogation here. It is asserted by observers of the phenomena of mesmeric somniloquism, that persons in communication, who are dull and unimpressive in their mode of interrogating, do not obtain as lively and proper answers, as those who put their questions with animation, and occasionally enliven the somniloquist with sprightly or mirthful sallies. Now from the phenomena of natural somniloquism, as well as from reasoning on the subject, I would say, that in proportion as these measures might awaken her imagination and

give it impulse, the reception of transfused ideas would be resisted, and the phenomena depending on mental sympathy with her companion, diminished. But, on the theory we are supporting—that all she gives out is of home manufacture—the more her imagination might be aroused by conversation, the brighter and better would be its creations, and the more definite her replies. Moreover, it does not follow, that he who puts his questions in a feeble and frigid manner, has inert feelings or a dull imagination—but rather the reverse; as intense effort in the reproduction of a scene is unfavorable to earnestness and playfulness of expression. To say, indeed, that lively questioning is necessary to procure lively responses, seems an abandonment of the theory of transfusion, which should be great in proportion to the intensity of thought—not the energy of speech; but on the theory we advocate, intensity of thought is unnecessary—sprightliness of interrogation everything.

It may be said, that in several instances during our recent experiments, and at other times and with other somniloquists, there have been prompt answers as to individual objects, which were correct. This is true, but the conclusion from it is, logically, false; for first, the objects concerning which she answered correctly, without a course of previous questioning, were scarcely any others, than "buildings," "people," "water," and "something moving;" which she was perpetually announcing; and second, in an equal number of times, her first answers were incorrect. It may be said, however, that the latter were mistakes. But does not their occurrence prove, that answers *were* given by her in opposition to the state of mind of the gentleman in communication with her? and is not this at variance with the hypothesis of transfusion? She could not answer a "book," a "building," "people," or "water," unless the idea of it were present in her mind. But if it were not in the mind of her companion, at the time, it could not have been transfused, but must have been created by her own imagination. Here then we see that in the very midst of the alleged transfusion of the ideas relating to one object, her own imagination created the image of another.

Now it is according to all human experience, that *some* of these creations should by accident be true to what was in the mind of her companion. If while writing this paragraph, I should ask a blind man which I was using, the quill of a goose, a swan, a turkey, a vulture or an eagle, he might anwer the first and be correct, but would that prove that he saw it? Certainly not. He was limited in his choice to the five, and, therefore, the chances against a successful answer, were not indefinitely great. But his knowledge of the common use of the first, or its being the first named, might in his judgment have rendered it probable that I was writing with it. The somniloquist might not exercise this judgment, when asked what I held in my hand, but, in framing an answer, she must of necessity fix on some object of a familiar kind, commonly held in the hand, which might or might not be the true one. If the blind man had known, that I made an equal use of the five kinds of quills, his first thought would probably have been of the one which had been most used by himself; and thus, the somniloquist, when asked "what have I in my hand?" necessarily thinks first (as I have already shown) of some familiar object: and having, in her torpid condition, no power of the understanding to inquire into the probability of the answer, gives it out in full confidence of its being right, although it *may* be either right or wrong. She believes it correct, because there is nothing in her somnolent judgment to oppose her conclusion. In this respect her state of mind is identical with that of a madman, who has full faith in the creations of his distempered imagination, because he is incapable of comparing them with anything else —cannot subject them to the test of his senses or his reason. Yet his creations of fancy might be according to the reality, as, for example, that his house was surrounded by robbers, when it really was; but no sound mind would believe from the coincidence, that he had been mysteriously informed of the fact, by sympathy with another mind. I cannot but believe, then, that logic supplies a lever with which to overturn that superstructure of faith in transfusion, which has been erected

on the occasional coincidences which our report furnishes. In the nature of things they must have occurred.

If mental sympathy really existed in the mesmeric state, we ought to hear of exercises of the thinking faculties, by some of these somniloquists, but nothing of the kind has, I believe, been exhibited. All the phenomena depend on the imagination. We hear little or nothing of mathematical solutions, philosophical inductions, or geographical relations. Contrarieties and discrepancies of all kinds are entirely overlooked. Harmonies are neither produced, sought after nor missed by the somniloquist. There is no abstraction, no generalization; and the whole mental performance is but the creation and exhibition of a series of phantasmagorial pictures, or rather of their imperfect, shapeless and uncombinable elements.

And this leads me to speak of the relations of the imagination with the sense of vision. In our experiments, no allusion was made to sensations in the organs of touch, taste or smell, and but three or four times to those of hearing, and then, generally, in consequence of a leading question; and with the simple enunciation of sound, without applying to it any epithets expressive of its melody or harmony. In fact, almost every idea awakened in her was visual, which is precisely what would happen if her *own* imagination supplied the objects of her consciousness; while if the feelings and thoughts of the person in communication were transfused, I can see no possible reason, why manifestations should not have been made of the perceptions received through the other senses. It is a well known fact, that the sense of vision supplies the imagination with its principal materials. Hence all poetry, except the didactic and pathetic, abounds in visual ideas, which, moreover, enter largely into the tropes and metaphors of the kinds I have mentioned as partial exceptions. The vividness of the ideas obtained through the eye, is, moreover, very great, and so attractive to our attention over those of the other external senses, that we speak of seeing, as synonimous with examination by means of all the other sentient organs. This popular phraseology shows the experience of the world, in regard to

the superiority of this sense. The sensations of the eye, moreover, are not only impressive at the moment, but abide with us; and after some time, are almost the only ones we can revive. Thus, many years after having discovered a new plant, we are able to recall the appearance of its flowers, and that of the wild scenery where it grew, much more vividly than its odour, the feel of its leaves, the taste of its bark, or the song of the birds in the surrounding trees. Indeed, until we recall the visible appearance of an object, it does not seem to be present in the mind; but when once reinstated, as an object of sight, its qualities and properties, as ascertained by our other senses, are gradually, though much more faintly reproduced. Thus it is, that the magazines of the mind are almost filled with visual perceptions, and the imagination is not only the keeper of the key, but the artist which weaves them into tissues. Almost all its creations, therefore, necessarily address themselves to the "mind's eye," not to its ear. In general these reproductions cannot be mistaken for present impressions on the nerves of vision, for two reasons; 1st. The exercise of the other senses assures the individual, that what he sees is external to him; 2d. In the absence of the opportunity of thus exercising his senses, he can reason on the visual presentation, and decide upon its character. But when neither of these correctives, or opposing influences operates, it becomes *inevitable*, that the image or picture created by the imagination is regarded as a reality of sense, and of course referred to the eye. But it is not necessary even to this result, that the counteracting influence of external sensation or the exercise of judgment should be impaired, for a mere increase in the energy and activity of the imagination may produce pictures of such vividness, as to impose on the consciousness of the individual, in spite of his reason and his external sensations. More commonly, however, the effect is produced by the combined influence of exaltation in the former, and depression in the two latter. Thus a maniac from drink has an excited imagination, and enfeebled organs of sense, in which state he has many strange visions. But the best illustration is found

in ghost-seeing. Darkness excites the imagination, while it impairs external vision, under which combination the spectre created by the former is referred, by the consciousness of the individual, to the eye, and made a reality. An application of the whole of what has been here said, may, in a single sentence, be made to the sight-seeing of the mesmeric somniloquist, in whom external sensation, except that of hearing which is limited (we are told) to the person in communication, is suspended, and the reasoning powers are almost torpid. In this condition her attention is aroused by a question, and the imagination, which sometimes nods but never sleeps, supplies the reply, out of visual perceptions, which her dreaming consciousness refers to the eye, and calls it seeing. Indeed, all the answers and remarks of the somniloquist on whom the recent experiments were made, show, that she regarded herself as seeing; but on the theory we are seeking to illustrate, she could no more be conscious that she saw only the works of her own imagination, than the ordinary somnambulist, or the madman from drink, or the superstitious and frightened girl in the darkness of night, is conscious, that what the imagination presents has no existence without.

These views enable us to explain several circumstances, which are said, by those who are familiar with mesmeric exhibitions, to be realities. One is, that some individuals in the somniloquent state have very little mental sympathy. They will either give no intelligible answers, or such as relate chiefly to the body. Now, in the former case, the imagination is no doubt naturally dull, and will not, therefore, embody ideas into intellectually visible forms; but if the phenomena depended on transfusion of ideas from another mind, I can see no reason why they should not appear, as it is easier for water to run into the earth if dry, than wet. In the latter case, when the answers relate chiefly to the body, and the individual is said to have corporeal but not mental sympathy, the case may, I think, be explained in this manner. His existence has been more physical than mental; and his thoughts, his knowledge, and his previous exercises of imagination, have related chiefly,

in past times, to the wants and pleasures of the body. Now when such an one, in mesmeric somniloquism, is excited by questions, his imagination does not—cannot I might say—embody ideas, which relate to other objects than those which have administered to his physical enjoyments; and will, therefore, supply him with answers which relate to the body, rather than the mind—by which he will soon become characterized as deficient in mental, but great in bodily, sympathy.

In connexion with this part of our subject, I may refer to what has been so often affirmed, that mesmeric somniloquists seem to be free from all impure thoughts and feelings. This cannot be explained on the hypothesis of transfusion or mental sympathy, but gives support to the opposing theory. The connexion of the imagination with the sentiments and emotions of the soul, is more intimate than with the grosser propensities of the body, and hence, when the chief excitement is in the imagination, the moral feelings are more awakened by its exercises than the animal, and an aspect of mildness, propriety and purity shines forth.

Much has been said on the brilliancy of the intellectual manifestations, which it is alledged are sometimes made by mesmeric somniloquists. I am aware that natural somniloquists have made such displays; and am therefore willing to grant that means of eliciting them from the mesmeric somniloquist may be discovered, as the two states are closely analogous. I must say, however, that in all which the subject of our experiments uttered, nothing of the kind was elicited; but every answer and remark indicated the vacant and languid state of mind, of which I have spoken. But suppose such manifestations should be made, must we necessarily believe them transfused from another mind—mere reflections? Certainly not; seeing that in natural somniloquism, they are the *creations* of the mind of the somniloquist, whose *waking* mental manifestations they often surpass. But if they can come forth as original, not reflected manifestations, from the natural somniloquist, why *may* they not have the same origin in the mesmeric?—Indeed, from the close resemblance of the two, a sound

philosophical logic requires us to believe, that the two mental displays have in fact the same origin. But this conclusion excludes the theory of transfusion, which would make the striking displays of the mesmeric somniloquist but the reflected light of a brilliant mind in communication with her own. If this latter were the case, her manifestations should, in their force, bear a relation to the brilliancy of mind of her companion, which seems *not* to be the case; it is affirmed however that they *do* bear a relation to the force and sprightliness of his conversation, indicating that his exciting influence reaches her through the ear. On neither theory can I see room for any extraordinary exhibitions, or a ground for great expectation. On that of transfusion and reflection, nothing can come forth of greater excellence than what is in the transfusing mind, for the amount of light reflected can never exceed that which falls on the reflecting surface; and is not likely to be equal, as some will be absorbed and some refracted. It is a delusion then, if transfusion be true, to expect anything more remarkable than what has been witnessed. On the theory of excitation by the stimulus of questions, I know not that we are warranted in looking for brighter manifestations than have yet been made; but as we cannot foresee to what extent the creative energy of the somniloquist's imagination may be excited by external influence, the theory of interrogative agitation seems to hold out a greater prospect of *original* manifestations than the other; which, indeed, can afford *no* promise whatever of anything original; nor, until the stream can rise higher than the fountain, of anything superior to what is in the transfusing mind.

I cannot refrain from calling attention to the question, how far a mesmeric somniloquist may be educated. We know that in cases of prolonged somniloquism, constituting a kind of double consciousness, in which the paroxysm lasts for several weeks, the subject learns things which in the lucid or sane interval, that follows, are not remembered; but which return in the next somniloquent paroxysm. The same is true of the mesmeric somniloquist on whom our experiments were

made. In the presence of several of us, she displayed a personal knowledge of a gentleman who had often been introduced to her, recognized his watch and was fond of handling it. She also recollected her imaginary visit to England with one of our own number, and remembered not only what (it has been assumed) was communicated to her by transfusion, as the seeing of a strange beast; but also what the gentleman said to her in words, as for example, his proposal to visit England and his father's house. Now, if the knowledge acquired in the somniloquent state, or the images and imagery raised in the mind by questionings and conversation, remain with her, (and if she remember from one paroxysm to another, it may be concluded that she remembers much longer,) it follows, that after a time her somniloquent memory will become filled with a great variety; and that she will improve in her conversational powers, especially on certain subjects, those upon which the questions put to her oftenest turn her imagination; and when, at a subsequent time, a question happens to awaken the recollection of an object or group formerly presented to her, she may immediately describe it. In this way, if any one should happen by a question to revive in her mind the falls of Niagara, or the interior of a steam boat, the conception of which had ever been raised by the force of leading questions (to which all somniloquists are known to be amenable) she might instantly give out the scene; and if any one had ever, by interrogation skilfully directed, caused her to imagine, that is, see, a man with one arm only, an inquiry about the arms of a man, might immediately embody to her consciousness that which had long slept. Or, if some one should in a remark of his use the word beast, although he did not intend to present an animal to her view, it might forthwith revive the conception of the strange beast, which she saw in her visit to England. And if an individual, introduced to her a second time, should be recognised and fully remembered by her, his questions might bring up, as recollections, the scenes which had been raised in her mind at the previous interview; although his own might be now in a different state from what

it was then. All this is apt to happen in the waking state, as the meeting with an old school fellow revives the memory of events that might not have been recollected for half a century.—Unless she had her ideas associated according to the same laws with our own, we could not have conversed with her—having them so associated, all that I here insist upon seems inevitable.

As further evidence of her being docile, when in the somniloquent state, I may mention her practising with music-teachers and amateurs, before performing with them in public exhibitions; and her telling a lady who had sung with her, that she wished to sing with her again, because she pronounced the words so distinctly. Notwithstanding this evidence that she followed the voice, it is believed by many intelligent persons, that she both sings and reads with others, by mental sympathy. It seems strange, that before coming to a conclusion on this point, the experiment had not been made, of introducing the singer and reader, by their arms being thrust through a partition. If she should sing and read, simultaneously, with them, in such an experiment, when she could not hear their voices, the sympathy of her mind with theirs would be established.

The mode of introducing, or putting a person in communication with the somniloquist, is incompatible with the hypothesis of a material agent, by means of which the transmigration of ideas takes place. Thus the practice at present is, for the mesmerizer to place the hand of the visitor in that of the somniloquist, and then perform on both certain manipulations; still it is not requisite that it should be the hand of the person announced; any other hand will do equally as well. It is only necessary that the somniloquist feel a hand and hear a name, to secure her attention—to make her conscious of the companionship. The hand of one may be grasped by her—the name of another pronounced, when she will immediately answer the question of the latter. This fact has been established as conclusively, both in Cincinnati and Louisville, as any fact can be, and the inference to which it irresistibly

leads, is that no physical agent is the efficient cause of the mental intercourse between them, but that it takes place through the ordinary *media* of the external senses and the organs of speech, hearing, and touch. The introduction may even be effected without joining hands, but more easily by it; the reason for which manifestly is, that the attention of the somniloquist is more awakened and specifically directed, when her sense of touch as well as of hearing is appealed to, than when the latter only is addressed. It is well known, moreover, that after having been several times in conversation with a somniloquist, the visitor may introduce himself;—that is, he has become an acquaintance—a familiar—a friend: his voice and touch are perceived, and he is recognized. All this would seem to indicate that the process of social intercourse with the somniloquist is not physical but psychological—not occult but open—not through the vibrations or the transmitting power of a hypothetical, undiscovered etherial fluid; but through the *ordinary media* of air and light, assisted by appropriate impressions on the nerves of feeling. This conclusion concerning the nature of the introduction to a somniloquist, at such utter variance wi h the hypothesis of the transfusion of the thoughts and feelings of another through an unknown channel, is in perfect harmony with the theory of interrogation.

The measures employed, at various periods, to excite the mesmeric state, deserve to be mentioned, as lending no support to the hypothesis of a specific agent, emanating from the Mesmerizer. Those at first employed were entirely different from the present. They were not personal but instrumental. An iron pot, magnets, rods, and ropes with which the subjects were bound together, then constituted the apparatus of a mesmerizer; to these succeeded a complex system of passes with the hand, and other manipulations, all instruments being thrown aside; now, the eye performs, or may perform, the whole; and that too, without anything being radiated from it to the subject, for Faria, one of the oldest and most scientific mesmerizers of Europe, expressly declares, that it is not ne-

cessary to make any effort of the will—it is only requisite to make the subject *believe* that such an effort is made, and the somniloquent state occurs. A learned and venerable mesmeric philosopher, of this city, informs me, that he has put a boy into somniloquism, by merely looking at him, when they were ten feet apart. It is quite obvious, that such an effect could only have been produced through the influence of the imagination and feelings.

In conclusion, the variety of aspects which the phenomena of mesmerism have exhibited, deserve to be regarded in connexion with the hypothesis of a specific agent or influence as producing them. The phenomena of the known agencies of nature, such as light, caloric, and electricity, are invariable. Science multiplies them to our observation, but the new do not supersede the old—they are cumulative, and every succeeding year swells the aggregate. Time exerts on the phenomena of mesmerism a very different influence. There is change but no cumulation, progression without aggregation—the snowball rolls on, but melts at the sametime and grows no larger. The soil does not annually bring forth a more abundant harvest as it becomes more thoroughly impregnated with the same seeds, but a new plant supersedes the old, to be in turn displaced by another. The first phenomena of mesmerism, consisted chiefly in various agitations of the muscular system—in spasms, hysteria, syncope, coughs and vomiting; to these succeeded somniloquism, with a vision so quickened, that the individual could see deeper into a mill-stone than he who picks it:—a *clairvoyance* of the eye, which could discover what was then transacting in distant places; a *clairvoyance* of the mind, that enabled the somniloquist to penetrate the arcana of science; a *prevoyance* that could perceive the shadows of coming events, when other eyes could descry nothing! But this brilliant coruscation on the face of humanity, like a meteor of the heavens, soon passed away,—and is now succeeded by the phenomena of metempsychosis. From a state of beatific inspiration, the devoted somniloquist is degraded to the condition of a mere

passive and unresisting recipient of the thoughts, feelings and will of those in communication. Her ideas are no longer her own;—she is compelled to feel what others feel;—she cannot move but at their bidding. The barriers of her mind are broken down, and "blue spirits and black, white spirits and gray," enter without opposition, and revel in its mansions without molestation. Her personal consciousness has become a *tertium quid*, composed of her own and that of another united. She is transformed into a spiritual hybrid, and loses her accountability both to God and man, as the laws of neither recognize such personality.

Louisville, Feb. 10, 1844.

ART. II.—*A Case in which the application of a small quantity of Strychnia was followed by unpleasant effects.* By W. L. SUTTON, M.D., of Georgetown, Ky.

Mr. Davis, apothecary of this place, in weighing strychnine, dropped a little on his finger which, at the time, happened to be moist. He wiped it off carelessly, but in the course of an hour his hand and arm began to swell and feel numb. The swelling of the hand and fore arm was very considerable, attended by loss of sensation, (but not of motion), and severe pain in the shoulder. He used sinapisms and free friction with ammoniated liniment to the arm, and took morphia and spirits of ammonia internally. Next morning the swelling was gone, but he continued to feel slight shooting pains in his hand for some days, and even yet, he feels some occasionally. A depression took place in the bulb of the finger, and still continues. It has very much the appearance, as if produced by a condensation of the cellular substance beneath the skin. On two previous occasions he had felt slight pains from dropping some of the same article on his hand. He knew a similar effect in one of his friends. I will add, that I have heard that a man in Fayette county, whilst preparing some strychnine to poison crows, dropped

some on an ulcer upon his hand, which caused his death in a few hours. I can say nothing as to the truth of this report. It is evident that certain persons have a peculiar susceptibility to its influence, as Mr. Davis thinks not more than the fifteenth part of a grain could have fallen upon his finger. This may suggest a caution in applying this article to denuded surfaces, seeing that so minute a quantity, upon the thick skin on the bulb of the finger, may be followed by distressing effects.

February, 1844.

REVIEWS.

ART III.—*Recherches sur la Fréquence des Hernies, selon les Sexes, les Ages, et relativement à la Population.* Par J. F. MALGAIGNE, Professeur agrégé de la Faculté de Medicine de Paris, Chirurgien de l'Hospice de Bicêtre.

Inquiries into the Frequency of Hernia, according to Sex and Age, and in relation to Population. By J. F. MALGAIGNE, &c. From the *Annales d'Hygiéne Publique et de Médecine Légale*, Vol. xxiv, 1840.

Accident having directed our attention to this article a few days ago, a hasty perusal of it led us to believe that an analysis would be acceptable to the readers of the Journal. The paper being in itself an analytical one, the subject will thus have undergone a sort of double distillation after passing through our alembic, and hence to readers of *refined* taste must prove agreeable. At all events, as remarked by the author, if the question considered here be not one of that kind which leads to important practical results, it still offers so much interest that most writers upon hernia have attempted its solution.

The data upon which some of the writers upon this subject have founded their conclusions, are exceedingly vague;

and the results obtained by others, who have attempted to solve the problem by figures, are always doubtful, and indeed generally contradictory. Arnauld, for instance, says that of males, at least one-eighth are affected with hernia, but he offers no proof of it; others have carried the proportion to one-eighth of the total population. Bordenave opposes strongly such an exaggeration, and fearlessly asserts that the proportion does not amount to one in a hundred. Louis, not content with assertions, made inquiries at the hospitals Saltpétriére, Bicêtre, and Pitié, and that for Invalids, and found that children were affected in the proportion of 1-50th, women 1:32, adults and old men 1-17th to 1-18th; results as different from the assertion of Bordenave as from that of Arnauld. Juville advances the idea that in Germany and the north of Europe, the proportion for men is 1-30th and more; in Italy and Spain, 1-15th; in France and England, more than 1-20th. Turnbull, in England, says, on the authority of researches carefully made in all the kingdom, that the individuals affected with hernia constitute 1-15th of the population. Lawrence thinks the statement manifestly exaggerated. Sheldrake goes still further, and makes the proportion 1-10th.

Knox, some years since, discussed this question in a special work, and although he has not expressed his opinion clearly, it is evident that he regards hernia as infinitely more rare than most authors do, and coincides very nearly with Bordenave. He rests his conviction on the following facts: 1. The statement in Monroe's work of the examination of recruits for the German legion by Versturme and others, which gives less than 1 in the 100. 2. Examination of 6229 recruits, by Marshall, from December, 1824, to December, 1825, giving a proportion of 1 in 76. 3. Two tables of recruits examined at the Dublin depôt—one of 4012 individuals, which furnished 18 ruptures, another of 2588 which gave 16; these tables united with that of Marshall, show that subjects with rupture do not form 1-100th of the total number. 4. Eighty-six individuals carefully examined after death, by himself, and

only one with rupture found. 5. The last and principal argument is drawn from results of the draughts for the French army in 1831, '32 and '33, which show for the whole number 1.3 for every 100.

Finally, Marshall himself, makes a computation from the register of recruits at Dublin for the British army: the first table embraces 20 years, and gives a proportion of 1:50; a second embracing 23 years, of 1:48.

These calculations and results, besides being contradictory, are radically defective. They refer to a peculiar population, chosen from hospitals or the army, which must exhibit different proportions from the ordinary population; nor are the differences in the frequency of hernia, arising from sex and age, taken into consideration.

"The preliminary conditions, then, to be fulfilled in order to solve this difficult problem are: 1. To act upon the ordinary population without distinction and without choice. 2. To find the precise ratio of hernia in the two sexes. 3. To seek the different proportions of hernia at the different periods of life, and from all these combined, to deduce the general ratio."

The *bureau central* of the Parisian hospitals, Malgaigne says, fills the first condition, inasmuch as individuals of both sexes and of all ages, indiscriminately, apply there for trusses. But it may be objected to observations collected here, that they relate to paupers, or to a population bordering on indigence, and that it is not yet ascertained that the same law of production obtains among the wealthier classes. Laying aside, for the time, this question, the importance of which is acknowledged, and supposing that the persons submitted to his observation represent the entire population, he endeavors to establish

1. *The comparative frequency of hernia in the two sexes.*— The first tables of a suitable character to determine this question, are those of Louis, already referred to, from which it may almost be concluded that there are two males affected with hernia for one female, "a proportion truly extraordinary." These

ruptures, however, were observed chiefly among the aged, and there are in fact, as will be seen presently, certain periods of life in which the frequency of hernia among females, brings the proportion pretty near that just stated.

But taking the entire population, as do the bandagists and chiefs of public establishments, the number of males is seen to increase considerably, and that of females to diminish. Monnikoff of Amsterdam has drawn up a table, which gives a proportion nearly of three males to one female (2.81 to 1); Mathey, of Anvers, another which gives 4 to 1; the statement of the old London Truss Society (up to 1814*) as published by Lawrence, furnishes about 6 to 1, the new society a little more than 6 to 1. There is nothing to show whether these tables have have been properly sifted; whether, for example, care has been taken to remove all those who were served twice, a thing which, happens more frequently with men than women, as the latter do not wear out their trusses so quickly. Knox, moreover, observes that men submit more willingly to an examination, an important circumstance, especially in England, and one which must alter the real ratio of hernia in the two sexes.

As this last source of error scarcely exists at Paris, among the poor especially, the true proportion may be more easily obtained. The first observations collected by Malgaigne at the bureau central (October and November, 1835) amounted to 410 only: 335 males, 75 females; showing a proportion of $4\frac{1}{2}$ to 1, which is the mean between that of Monnikoff and the English writers, and approaches the result obtained by Mathey of Anvers. But this number appearing too small to decide the question, especially in comparison with the numbers of Monnikoff and the London Societies, he collected the total number that presented themselves, at the same place, in 1836,

* In the last (5th) edition of Lawrence's Treatise, this report is brought up to 1835. The society, since it was first instituted, a period of 28 years, had afforded relief to 83.584 persons, of whom 67.798 were males, and 15.786 females. But this includes numerous cases of anal, uterine, vaginal and vesical prolapse. Subtracting these leaves

Whole number,	80.492.
Males,	67.346.
Females,	13.146.

A proportion of about 5 (5.12) to 1.

and eliminating all who had applied twice and thrice, and all of the females who applied for pessaries only, found the whole number to be 2,767; *i. e.* 2,203 males, 564 females, giving a proportion something less than 4 (3.91) to 1. He repeated the same thing for 1837, and eliminating as before the cases of vaginal prolapse, and taking care to include none of the cases of the year preceding, found a total of 2,373, or 1,884 males, 489 females, a proportion still a little less than 4 to 1 (3.89 to 1.)

"This second result approaches so near the first that chance doubtless comes in for something; and it is not probable that a third series would give a proportion differing 0.02 only from the preceding. But we may at least presume that it would not deviate very greatly from it; so that we have sufficient reasons to conclude, that for Paris at least, and among the lower classes, about 4 subjects with hernia may be counted among males for 1 among females."

2. Our author next considers *the comparative frequency of hernia according to age.*

The only document bearing upon this branch of the subject, is that emanating from the Old London Truss Society, given by Lawrence, and to which reference has already been made. This presents some striking analogies with the tables subsequently given by our author, but is liable to so many objections on the score of accuracy that he makes no use of it. The 410 observations collected by himself during two months of 1835, after being disposed according to sex and age, furnish so small a number for each period of life that he attaches but little importance to it; this table we shall omit, although the author occasionally refers to it. But in the following table we have the cases collected in 1836 and 1837, arranged according to sex and age; this he thinks "worthy to fix the attention," and upon it, "he relies with some confidence."

AGE OF SUBJECTS.	1836.			1837.		
	MALES.	FEMALES.	TOTAL.	MALES.	FEMALES.	TOTAL.
From birth to 1 year.	48	7	55	30	8	38
From 1 to 2 years.	16	7	23	29	7	36
2 "	18	4	22	14	2	18
3 "	11	4	15	9	1	10
4 "	9	0	9	9	4	13
From 5 to 13 "	53	12	65	45	6	51
" 13 to 20 "	83	8	91	76	7	83
" 20 to 28 "	118	17	135	108	23	131
" 28 to 30 "	47	9	56	33	12	45
" 30 to 35 "	119	26	145	112	28	130
" 35 to 40 "	237	53	290	181	47	228
" 40 to 50 "	410	131	541	312	111	423
" 50 to 60 "	457	118	575	385	98	483
" 60 to 70 "	367	119	486	324	100	424
" 70 to 75 "	133	31	164	132	18	150
" 75 to 80 "	62	13	75	65	15	80
" 80 and upwards.	15	5	20	20	2	22

We must now let the author speak for himself; the dependence becomes too close for analysis:

"I have taken care to distribute the cases of hernia according to the periods that appeared to offer marked differences with those preceding and those following. Above all, it was interesting to know in what proportions the subjects with rupture occurred during the first year. In 1836, I find 55 out of 2,767, or 1:50; in 1837, 38 out of 2,373, or 1:62; mean term 1:56. If we confine ourselves to the males, the proportion will be, for the former year, 1:46, for the second, 1:62, as for the two sexes united; mean term 1:54.

"In children from one to two years of age, the number falls perceptibly for our first series; it continues almost the same for the second. But for the succeeding epochs of 2, 3 and 4 years, the diminution is flagrant and unquestionable; still, to the mass furnished by the first year, add those produced during the second, third and fourth; and if it be true that death decimates largely the population at these ages, it by no means produces such a diminution as we see occurring in this small *hernious* population. Do the radical cures thus reduce the number? These cures are not so common, or so rapid, especially with the trusses furnished by pub-

lic charities, badly applied by their officers, and worse still by the parents. Is the mortality greater among subjects with hernia than among others? The question is one of high importance both in reference to practical surgery and public hygien, but which cannot now be answered.

"In the eight succeeding years, from 5 to 13, the decrease continues: the mean for each year is 8 for 1836, 6 for 1837, a remarkable agreement, which will be found, moreover, for nearly every period. It seems also that in these eight years, it is the 8th or 9th year especially which holds the middle place, presenting the least number of ruptures, and constituting a limit between the hernias of infancy, which to that point decrease, and those of youth which then begin to increase. I have taken the numbers for each year of 1836 only, and find:

At 5 years,	8 boys,	0 girls,	total 8
6	6	2	8
7	10	1	11
8	1	1	2
9	7	2	9
10	9	3	12
11	7	2	9
12	5	1	6

"Taking the boys or the girls, or the two together, still the mean of the four latter years will exceed that of the four former, which seems to indicate an increase (*recrudescence*) beginning at the 9th year.

"This increase is far more striking from 13 to 20, a period of seven years, which gives for each year a mean of 13 ruptures for 1836, and 12 for 1837. It is remarkable, however, that the increase is solely among the males. Among the females, the number remains stationary, or, if reliance may be placed on such small numbers, it even seems to diminish. The period of puberty, then, in males, is accompanied by a predisposition to hernia that is foreign to the other sex. Very probably this proceeds from the difference in the occupations embraced by boys and girls; but this belongs to the question of causes. From 13 to 20 the number of individuals with rupture continues nearly the same, offering no very evident progression.

"From 20 to 28, the number evidently augments, whether the individuals are considered in mass, or distinguished according to the sex affected. The annual mean, in 1836, rises to 17, and is not much less in 1837. Among the males there

is an increase of a fourth upon the preceding period; among the females, of more than double. Here we can aattribute nothing to occupation; but marriage and pregnancy bring their powerful influence; and, we may remark in passing, it is after the age of 20 that prolapsus of the vagina and crural hernia, previously so rare, make their appearance in females."

No decided progression occurs in any of the years of this new period. But from 28 to 30 there is a remarkable increase, especially among the females. The general mean for each of the two years, is 28 in 1836, 22½ in 1837, and among the females it is double that of the preceding years.

The 10 years from 30 to 40 must be divided into two periods. During the first five years the general mean is 29 for 1836, 26 for 1837, an increase, though slight compared with the extraordinary augmentation from 35 to 40. In the latter period, the mean of each year is double that of the preceding, both for males and females. The transition is abrupt. The agreement between the two tables is remarkable, and the more so because the mean of each of these five years is not only superior to the preceding, but remains superior to the succeeding. In fact, from 40 to 50 the mean falls from 58 to 54 for 1836, from 46 to 42 for 1837; at the same time, however, a difference is perceived in the ratio of hernia affecting the two sexes. The hernia of females which, from having been one-fourth of that of males, became so rare as scarcely to reach this proportion until after the 28th year, seems towards 40 to be acted upon by new causes which carry the proportion beyond that of the first year.

"Take, for example, the two preceding periods, adding the two years together:

From 30 to 35,	54	women,	231	men.
35 to 40,	100	"	418	"

"The proportion of one-fourth is not quite reached. Compare this with the number in the two tables for the period of from 40 to 50 years.

For 1836,	131	women,	410	men.
1837,	111	"	312	"
Total, -	242	"	722	"

"The proportion of hernia among females is now one-third. Moreover, although from 40 to 50 the general mean for each year has really diminished, it has augmented for the females, and the proportion for each sex is as follows:

From 35 to 40 years, annual mean:	20 females,	84 males.
40 to 50 " " "	24 "	72 "

"Is such a difference to be regarded as the work of hazard? The coincidence of the number for the two years forbids the supposition. To what new cause, then, must be attributed this sudden advance of hernia among females?"

From 50 to 60 there is an increase, and the annual mean becomes equal or even superior to what it was from 35 to 40. The ratio between the sexes is likewise nearly as in the latter period; whence it follows that from 50 to 60 there is an increase of hernia among males, and a diminution on the contrary among females, the latter forming scarcely more than a fourth: 118 to 457, 98 to 385.

From 60 to 70 the general sum falls; and that of females remaining the same, the ratio of the two sexes becomes almost 1 to 3, as in the period from 40 to 50.

"If we take in mass the decennial period from 70 to 80, we shall find that the amount of hernia among males has decreased not quite one-half, whilst among females it has fallen off two-thirds. At this age, spontaneous cures cannot be alleged; is the mortality, which we shall show to be greater among subjects with rupture than among the ordinary population, greater still among females affected with hernia than males?

"Again, I have divided these ten years into two equal periods, in order to show the rapid decline of the population affected with rupture. Each year thins the number; previously, the new cases that occurred filled up the vacancies made by death; from 60 to 70, for instance, the amounts for each year still balanced; but mark the progressive decrease beginning with the 70th year:

At 70	years,	38	men,	10	women,	total	48
71	"	29	"	8	"	"	37
72	"	30	"	5	"	"	35
73	"	17	"	4	"	"	21
74	"	19	"	4	"	"	23
75	"	20	"	2	"	"	22
76	"	15	"	3	"	"	18
77	"	8	"	3	"	"	11
78	"	13	"	2	"	"	15
79	"	7	"	3	"	"	10
80	"	4	"	2	"	"	6
81	"	3	"	2	"	"	5
82	"	3	"	—	"	"	3
83	"	1	"	—	"	"	1

"After which I find but one subject with hernia for each of the three succeeding years; than a female aged 88, and lastly a man aged 98.

"To resume, the space comprised between birth and extreme old age, is found divided into a certain number of periods in which the frequency of hernia varies greatly, and for each of which it is necessary to compare the number of individuals affected to the total correspondent population. Evidently to take the ratio of hernia to the population at a determined age, and deduce therefrom a general conclusion, would be altogether erroneous; yet this is precisely what Knox has done. Supposing this ratio to be known, it would be necessary to establish an arithmetical proportion between the amount of hernia at this age and the total amount. If, relying on the results furnished by the years 1836 and 1837, we seek, for example, the proportion of hernia in the period from 20 to 28 to the general mass, we shall find for the male sex:

In 1836, 118 to 2,203, or 1: 18.67.
In 1837, 108 to 1,884, or 1: 17.40.

"The mean will be 1 to 18. If we wish to know then the relation of a single year of this epoch to all periods of life, we have only to take the eighth of the numbers 118 and 108 and compare it to the general numbers 2,203 and 1,884, or to perform any other equivalent arithmetical operation, and we shall arrive at this conclusion, that the sum of hernia furnished by a male population from 20 to 21, for example, is to the general sum of hernia in the entire male population as 1 is to 144."

3d. A more difficult question now presents itself, namely: *The frequency of hernia in the male population of* 20 *or* 21 *years.*

Our author chooses this period because it is the only one upon which data at all satisfactory can be obtained. To recruit the army in France, the law requires an exact census of the male population at this age to be taken annually. A general examination is made by a board of surgeons, and hernia being a cause of exemption, it would seem easy to find the relation it bears to a given number of individuals. But there are difficulties in the way. From the general mass thus registered, the law calls a certain number only, and when the council of revision have obtained the legal number of healthy young soldiers, the remainder are sent back without examination. It is here that Knox erred. He acted upon the entire registration for three successive years, 1831, '32, '33, and found the proportion to be 1. 3 for every 100; forgetting, or not knowing that the law required of each census, only 80,000 men. Instead, therefore, of taking the amount of the whole class, we must seek that of the individuals examined. This is composed of those recognised as fit for service, and of those exempted. From these latter must be subtracted still those that are exempted by virtue of the law itself, such as the elder son of widows, &c. After all this difficulties yet remain, as will presently be seen.

The documents employed by the author are all of an official character. Some of them were found in a work published by Chabrol in 1826, entitled: "*Recherches statistiques sur la ville de Paris et le département de la Seine;*" others were obtained from the Minister of War, and consist of reports made by the administration for six years from 1831 to 1837.

The *Recherches* of Chabrol set forth the results of the old conscription in the department of the Seine, from the year IX (of the Republic) to 1810, also those of the recruiting service from 1816 to 1823. In the first period, only 30,603 men were examined out of a male population (from 20 to 21) of 44,543;

In the second period, 11,730 only out of 40,576. The difference is enormous, but is to be explained by the difference in the contingent demands.

"Confining ourselves now to the subjects really passed to examination, and to the ruptures found among these, we find for the old conscription:

At Paris	25,503 exam'd,	694 hern.,	1 out of 36.74.
In the liberties (*banlieue*)	5,100 "	140 "	1 out of 36.41.

"From 1816 to 1823, separating in like manner Paris from its liberties, we find:

At Paris	9,836 exam'd,	261 hern.,	1 out of 37.69.
In the liberties	1,894 "	52 "	1 out of 35.73.

"These different proportions present a remarkable agreement, and the general mean, 1 to 36.87, seems therefore to acquire a high degree of probability."

But here new difficulties arise. It might be supposed that all those rejected for slighter causes than hernia, had been carefully examined as to the existence of the latter, that the less cause was only admitted in the absence of a greater. But the law exempts individuals who have lost an eye, who are blind, lame, maimed, &c.; and these circumstances only are noted, although other causes may exist. Now are the blind, lame, &c. unaffected with hernia? An individual rejected for defect of stature, is not examined as to the existence or non-existence of a hernia. It is indispensably necessary, then, to throw out of from the table of examinations, those sent away on account of stature, or for graver causes. This destroys the previous calculation; the ratio of 1:37 becomes too small, nor is it possible precisely to determine it. Thus, subtracting those only rejected on account of small stature, and the proportions before given become,

For the old conscription	about 1: 31.27.
For the new	about 1: 32.63.

By pursuing this process in reference to more important infirmities than hernia, the ratio augments frightfully. But it is exceedingly difficult to determine, in many cases, from the tables, whether such an affection as scall, for example, served for the discharge of an individual laboring under a slight her-

nia, or whether a voluminous hernia attracted attention rather than a slight degree of scall. As hernia, moreover, is less common (according to Malgaigne) among men of small stature, the proportions, bearing solely on those of the required height, would of course be exaggerated.

"All these things being duly considered, it appeared to me that by compensating for this rarity of hernia, among subjects rejected for defect of height, with the surplus of hernia not mentioned, though probably existing among subjects rejected for graver causes, I might keep within the true limits, equally removed from exaggeration in *plus* or in *minus*; and consequently, from the numbers thus far mentioned, the proportion would be 1: 31.64, and more fully 1: 32."

The documents obtained from the War Department bear upon an imposing mass of individuals, and as they extend over a space of six years, the results will go far to destroy or confirm the inference just deduced from previous documents. Before presenting the table some explanation is necessary:

"The second column indicates the force of the class, the third the number called before the councils of revision. In reality, from this third column should be deducted the fourth, which comprises the individuals called in the order of their numbers, and who, not having answered, are set down as valid and declared soldiers. It must not be imagined that these refractory individuals are all fit for service, and neglect a proceeding which they know very well at the time would be useless. The Minister of War marks, on the contrary, their absence as punishable, because it causes to be directed upon regiments recruits for the most part infirm. The fifth column comprises two categories, first the legal exemptions which have to be submitted to the board and by them verified, but which render a coporeal examination useless; second, what is called the *deficit*, that is to say, individuals dying, or convicted of infamous crimes, after the period of enrollment, and who consequently have not been submitted to examination. This fifth column, therefore, must be deducted from the list of individuals called; the remainder comprises the valid subjects, the infirm, and those rejected for defect of height. I have not noted the valid subjects, the number of which, always fixed by law, is 80,000. I have also left out those rejected for want of height, as this element no longer interests us, and besides may be obtained from our tables by a simple arithmetical operation.

Finally the last two columns constitute the summary of each series, namely: the last but one, the exact number of individuals examined in relation to infirmities, valid or non-valid; and the last, the number of ruptures detected by the board of examination.

I thought it right to give all these numbers, more especially in order to place the finger, so to speak, upon the error committed by Knox, in not having decomposed, as I have, the quantities which express the total force of the class.

Years.	Force of the class	Number called	Absent.	Legal exemptions & deficit.	Rejected for infirmities.	Total number examined.	Ruptures.
1831	295.978	171.541	2.246	28.039	47.531	125.285	4.044
1832	277.477	166.305	2 136	27.263	43.908	121.772	3.579
1833	285.805	172 397	3.572	29.128	48.175	124.603	4.222
1834	326.298	171.772	2.545	28.990	48.316	125.771	3.994
1835	309.376	173.765	2.357	30.316	49.009	126.652	3.921
1836	309.516	179.317	2.398	31.147	53.190	130.792	4.461

"Seek now the exact proportion of subjects with hernia in those examined, and you have the following results:

In 1831	1: 30.98
1832	1: 34.05
1833	1: 29.95
1834	1: 31.49
1835	1: 32.30
1836	1: 29.34

"And by adding the several sums together, you will obtain 24,221 persons with rupture in a total mass of 754,875 passed to examination; the proportion is a little more than 1:31, rigorously 1: 31.16. This is a remarkable conformity with the proportion deduced from the documents furnished by the department of the Seine; and it appears to me sufficiently demonstrated that the general proportion is from 1:31 to 1:32. I myself hold to the latter for reasons already explained, and if any one finds it too small, it will be easy for him to rectify at his pleasure the calculations I am now about to enter upon."

4. The next inquiry is, *The general ratio of ruptures to the sum total of the population.* As this section is short we present it without abridgement.

"The frequency of ruptures at the age of 20 being known, it is easy to arrive at their proportion for all ages. Thus I take table III of the *Annuaire des Longitudes*, exhibiting the

law of population in France for ten millions of inhabitants, the population from 20 to 21 years comprises 173,576 individuals, or for the males 86,788. Of these the proportion with ruptures at 1:32 will be 2,712

"On the other hand, if we seek in each of our two tables what is the exact number at the age of 20—21 for males, we find it by taking the eighth of the amount assigned to the period of eight years from 20 to 28. This eighth, for the first table, 1836, is equal to 14.75 ruptures; for the second, 1837, to 13.50 ruptures.

"Comparing these quantities to the sum total of each year, it is found that the ruptures observed in subjects from 20 to 21 form, for 1836, 1-149th of the whole number, and for 1837, 1-139th—the mean, 1-144th.

"If now we multiply by 144 the sum of 2,712 hernias accruing from the males of from 20 to 21 years, in a general population of ten millions of souls, we shall have the approximative sum total of ruptures affecting the male portion of this population, that is to say, five millions of men will offer very probably a mass of 390,528 affected with hernia, a little more than one-thirteenth.

"The five millions of females, having one-fourth only of the number of ruptures which afflict the other sex, will count only 97,382 subjects of rupture, or about 1: 51.

"And lastly the total number of ruptures amounting to 488,360, will be found to the general population in the ratio of 1 to 20.5; that is to say, between 1: 20 and 1: 21."

This enormous difference of the ratio of hernia to the population at 20 years and to the general population, leads our author to consider this question:

5. *The ratio of hernia to the population at different ages.* This is studied in reference to the male population only; the smaller proportion of ruptures in the other sex, giving to the calculation for females less interest. To find the proportion of hernia during the first year of existence:

Five millions of males give, at this age, 153,627 souls. The tables for 1836 and 1837, united, give, as we have already seen, 1: 52.39 for the ratio of hernia at this age to the whole number. Dividing now, by this quantity, the whole number of ruptures (390,528) furnished by the entire male population, and we have the number of ruptures furnished by 153.627

individuals one year old, viz: 7.453. The proportion is 1: 20.67.

In repeating this operation, owing to the manner in which our author has divided the duration of life into periods, a slight inaccuracy occurs, which he thinks it sufficient to point out. "For example, by attributing in mass a certain number of ruptures to the period from 40 to 50, and by supposing them equally distributed upon each of the ten years composing this period, it is evident that they must be reputed less frequent from 40 to 41, than from 49 to 50, inasmuch as the population is less for the latter than for the former year." Bearing this in mind and repeating the operation for all the periods admitted, we have the following results:

"From birth to 1 year the proportion of ruptures to male subjects is - - - - - - 1: 20.67

From	1	to	2	years	-	-	-	1: 29.09
	2	to	3	"	-	-	-	1: 36.87
	3	to	4	"	-	-	-	1: 55.64
	4	to	5	"	-	-	-	1: 59.72
	5	to	13	"	-	-	-	1: 77.31
	13	to	20	"	-	-	-	1: 41.72
	20	to	28	"	-	-	-	1: 30.74
	28	to	30	"	-	-	-	1: 20.23
	30	to	35	"	-	-	-	1: 16.58
	35	to	40	"	-	-	-	1: 8.41
	40	to	50	"	-	-	-	1: 8.37
	50	to	60	"	-	-	-	1: 5.54
	60	to	70	"	-	-	-	1: 4.37
	70	to	75	"	-	-	-	1: 3.27
	75	to	80	"	-	-	-	1: 3.74

"There is, if I am not deceived, a powerful interest in thus following from age to age, the ascending or descending progression of hernia, compared to the population. Although pretty frequent in the first year, we see how far it is from justifying the conjecture of Camper, who, in 70 dead male infants, having 7 times found one or indeed both of the testicles still in the abdomen, and 56 times the inguinal canal open, upon one or both sides, concluded that hardly one-ninth of new-born male infants escaped hernia. This is substituting induction for fact, a logical fault, of which works of the XVIII. century show too many examples.

"After the first year, the proportion declines rapidly, so that, allowing for all cures which may take place, the conclusion is inevitable, that the mortality is nearly four times greater from birth to the 13th year, in subjects with hernia than in others. To avoid this conclusion, shall we admit that two-thirds of the ruptures are cured at an early age? The proportion, from what I have seen, appears to me greatly exaggerated; and yet it would not be sufficient, for a certain number of ruptures are developed at the ages of 2, 3, 4 and beyond, which would supply the losses caused by death in hernious subjects of the first year, and which compel us to admit that the mortality is much greater than it appears, or the cures far more numerous.

"After 13 and up to 75, the production of hernia is so active, so out of all proportion with the losses this peculiar population can sustain, that we can draw nothing from the preceding table touching the question of the greatest mortality. But passed 75, our figures will determine the question; supposing no new hernias supervene, the proportion of the preceding period would continue the same; so far from this, the number of ruptures, although constantly reinforced, diminishes more rapidly than the ordinary population. Here no radical cure can be alleged; death alone can commit such havoc. Nor will strangulations account for this increased mortality; these, very rare at any age, are still more so among the old, and offer besides less danger than in adults. Before all things else, I refer it to the inconveniences resulting from the hernia itself, which in the end alters the digestive powers, and thus precipitates the loss of the vital forces."

After the 80th year, the annual decrease of hernia is thus presented by Malgaigne:

From 80 to 83 the proportion to the rest of the population is - - - - - - -	1: 14.41
From 83 to 86 - - -	1: 24.93
From 86 to 98 - - -	1: 35.36

But there are two sources of error in the calculations thus presented. From the tables of Villermé, it appears that the general mortality is greater among the poor, than in the other classes. Thus, of ten thousand individuals there remained

	Rich Departments.	Poor Departments.
At 60 years - -	3,127	2,196
80 - -	697	380
90 - -	82	53
100 - -	1	1

Hence it is to these quantities rather than those derived from the law of population that the number of ruptures must be compared.

But besides the mortality which weighs upon the indigent population of Paris, there is another source of diminution, entrance into the public hospitals; after the age of 79, all the destitute have a right to enter into the two hospitals devoted to old age, Bicêtre for males, Saltpétriére for females. It was necessary then to have the exact number really existing at the time of our author's researches. This is furnished by the numerical census of the class, published triennially by the hospital administration. Unfortunately, however, in giving the ages, they have confounded the sexes, and confined themselves to heads of families. Still, taking the number of these, for the years 1836 –'37, as approaching at least pretty near that of all the poor in the latter periods of life, and comparing it with the number of ruptures at corresponding ages, observed at the central bureau (see table at p. 320), we have:

For 10,493	paupers,	from 60 to 75,	1,224	hernia,	1: 8.57
2,070	"	" 75 to 80,	155	"	1: 13.35
1,041	"	" 80 to 90,	41	"	1: 25.39
35	"	" 90 to 100,	1	"	1: 35.

These must not be thought the only ruptures furnished by this indigent population. But, continues the author:

"What I desire to establish, and what flows unanimously and invincibly from all these calculations, is, that after the age of 75, the population affected with hernia disappears more rapidly than the ordinary population, four times more quickly, for example, for the period from 80 to 90 years, even taking no account of the new ruptures that occur and partly fill the vacancies made by death in subjects of the preceding period."

6. *The proportion of hernia in the indigent and easy classes.*

Few large cities present, in so decided a manner as Paris, a population divided into a laboring and necessitous portion, and a rich and fashionable portion, each inhabiting its own quarter, and between the two extremes a third, the wealthy and commercial quarter, where wealth and luxury dwell side by side with the most squalid poverty and wretchedness. By comparing the three quarters together, for a series of years, it would seem possible therefore to ascertain what influence, if any, these circumstances have upon the production of hernia.

The first attempt of the kind was made by Richerand, who noticed that among the conscripts for the years XI. and XII., two districts of the city, St. Antoine and St. Marcel, offered more hernia than the others. He explained this result "by the kind of labor to which the inhabitants were devoted," that is to say, "the exercise of mechanical occupations."

In the work of Chabrol, *Recherches statistiques, &c.*, already referred to, our author finds valuable details touching this point; three tables, in which are enumerated the paupers relieved in the twelve districts (*arrondissements*) of Paris, during the years 1821, 1822, and 1823. These show that the greatest number of poor belongs to the sixth, eighth, ninth, tenth and twelfth districts; the least to the first, third and fourth; whilst the middle place is held by the second, fifth, seventh and eleventh.

Comparing now the sum of hernia produced by these districts for the male population of 20 and 21, and for the seven years from 1816 to 1823 (we omit the calculations for each district) we have the following aggregate result:

"POOR DISTRICTS.

"Total examined 4,030, 142 hernias, 1: 28.38

"RICH DISTRICTS.

"Total examined 1,604, 43 hernias, 1: 37.30

"EASY DISTRICTS.

"Total examined 2,913, 76 hernias, 1: 38.32"

The results for the *rich* and *easy* districts are nearly the same, the mean proportion being 1:38. On the other hand, the *pauper* districts exhibit a proportion much greater than the general mean, which, calculated for Paris only, in the years indicated, is 1: 32.86. This shows, also, that hernia is not so frequent in the capital as in the liberties.

"We may say then, in general, that the richer classes are a little less subject to hernia than the pauper class, save the general influences, such as climate, race, and mode of life."

7. The last and not the least interesting point of this inquiry, is, *The relative frequency of hernia in the different parts of France.*

"We have seen that the general proportion, disclosed by the tables of recruits, is the same for Paris and for all France; and this conformity will appear less surprising to those who consider that Paris has not, so to speak, a proper population; that the individuals born in its circumference belong, for the most part, to families from the various provinces; insomuch that we may say of it what the Romans said of Rome, it is an epitome of the whole empire. But out of Paris, these different provinces of which France is composed, do they present the same results? Are ruptures as frequent in the north as in the south, in the mountains and valleys, among the people of Roman and Gallic origin, and among those mingled with foreign blood?"

The War office again, in its returns of recruits for each department of the kingdom, furnishes the materials to elucidate these questions. Until the year 1836, however, none of these reports were published in sufficient detail. Aware of the insufficiency of the data, it was not until after analysing the tables of that year for each department, as he had formerly analyzed those for the whole kingdom, and finding striking and remarkable differences, that he began to feel confidence in the results. Subsequently the tables for 1837, subjected to the same process, and carefully compared with the former, with some partial exceptions verified all these results.

From the mean of these two years he proceeds to develope certain considerations, some of which we shall notice. A map is also given—a map of "*hernious France*"—showing at a glance where the disease is most common. This map is a curious thing in its way, and we are sorry we cannot reproduce it; however, what follows will be sufficiently intelligible with any good map.

We may state here that the general proportion for the departments as deduced from these last researches, is as follows:

For 1836, - - - - - -	1: 29.34
For 1837, - - - - - -	1: 33.42

Giving a mean term of 1: 31.38. The mean term heretofore deduced, the reader will bear in mind, is 1: 32.

As might be expected, the greatest variety is observed in the amount of hernia presented by the departments. Whilst some fall as low as 1 in 145, others rise as high as 1 in 13. The contrast is marked, the transition sudden, conterminous departments presenting the wide disproportion of 1: 16 and 1: 45, 1: 58 and 1: 116, &c. Hence those where ruptures abound do not rank in well-defined zones, but are found at all points of the compass. Nevertheless it is remarked that they form a large uninterrupted series, cutting France from north to south and from east to west, or from the department of the North to that of the Lower Pyrenees. Taking the 46th degree of latitude as the line of division between northern and southern France, the latter presents ten departments with hernia out of 36, whilst the former counts 22 out of 49. In northern France is a compact mass of 13 departments grouped together, with extensions towards the south and east. In the southern division is found a pretty compact group of five, continued towards the Lower Pyrenees; another small group of three on the side of the Eastern Pyrenees; and in the extreme south-east, the department of Var. It is noted as something curious that hernia is common in the five principal

angles of France, viz.: the departments of the North, the Upper Rhine, Lower and Eastern Pyrenees, and of Var.

The opinion that the dwellers among mountains are more subject to hernia than the inhabitants of plains or valleys, is almost universal. The contrary would at first view seem to be established by these researches. The valley of the Seine, that of the Loire, and the Garonne, all present departments abounding in hernia. But so many exceptions occur to this, so many instances of departments distant from mountains falling below the general mean, that without denying the influence of a habitation in mountainous or level districts, Malgaigne thinks other causes must be recognized, whose influence is perhaps greater.

He had shown by previous researches that hernia was more frequent in individuals of high stature than those of medium height. This, too, seems at first to be confirmed by the different proportion of ruptures in northern and southern France. Statistical writers have indeed called the former, France of great stature—*la France des grandes tailles*—and it is evident that ruptures are more common there. Yet particular facts are altogether opposed to this; in the departments of Doubs, Jura, Somme, and Moselle, which send recruits of the finest stature, hernia is rare; whilst Allier, Charente, and Vendeé, where the average stature is low, present hernia in greater proportion than most other departments.

"Thus high stature, like the habitation of plains, establishes a general predisposition to hernia, but within certain limits, and frequently opposed by other conditions which must be sought elsewhere."

To the north-west lie a mass of departments grouped along the littoral confines of the empire, where hernia is infrequent. These are the five departments of ancient Britany, where the proportion varies from 1:58 to 1:116; the two departments of Maine, proportion 1:49 to 1:58; three of Normandy, which give 1:36 to 1:81; and far to the north two others. 1:65 to 1:145. Here occurs one of those sudden transitions

to which reference has been made. The three departments of Poitou, conterminous with Brittany, exhibit a proportion of 1:16 to 1:27; below Poitou are three others, which go as high as 1:15 and 1:14. Eastwardly the increase is more gradual; but far to the north is Pas-de-Calais, 1:145, in contrast with the department of the North, 1:16. These strong contrasts, occurring in both years, are to be ascribed to something besides chance.

"It is interesting to observe here that ruptures suddenly become very rare in all the zone where the culture of the vine ceases, and where cider is the general drink. In the department of the North, the population is rich, the cities large, and the vine does not grow; all conditions which seem to favor a less production of hernia. The result is quite the reverse; must it be charged to the general use of beer? I ask a question, rather than give a solution."*

In the southeast, lie 26 departments, which exhibit a variable proportion, though always below the mean; they include the greater part of Languedoc, Auvergne, and Provence, with the whole of March, Limousin, Lyons, and Dauphiny; their continuity is interrupted by four others, whose proportion is above the mean. The most general character of all these departments, is that they are mountainous. A large part of their population make habitual use of oil, a circumstance which enables us to test the opinion advanced by some writers, that oleaginous aliment† favors the production of hernia. The northern limit of the olive, as assigned by Malte-Brun, includes nearly one-half of these departments. With three exceptions, the olive region is below the mean propor-

* Apropos to this; Lawrence quotes a passage from Soemmering, who thought potatoes favored the formation of hernia, and another from Blumenbach, who assigns milk as a cause of the great prevalence of ruptures among the Swiss and Dutch. He then remarks with a touch of humor: "It seems strange that a single Irishman should escape the united operation of the milk and potatoes." If to these be added the beer, the Dutch and English would fare quite as badly.

† Train-oil, for example. Hence your Esquimaux would be one immense hernia—unless saved by Liebig's theory.

tion; and the contiguous departments, where the consumption of oil is equal, are among those which, of the whole kingdom, present the smallest number of ruptures.

Lastly, to the northeast, are Burgundy, Franche-Comté, Lorraine, a part of Alsace and Champagne, comprising 13 departments, where the proportion varies from 1:33 to 1:82. Two, and perhaps three exceptions occur, in departments which equal or exceed the general mean.

"To what shall this exemption, for the northeastern part of France, be attributed? Nearly all the departments are occupied by mountains; however, Moselle and Meurthe are quite level; and the former especially offers less hernia than Manche and the Vosges. No doubt it would be rash, with the results of only two years, to launch into conjectures that might be falsified by succeeding years; and all this can pass but for a first glance cast upon an unknown domain, to reveal its existence and call thither new investigators. But I cannot conceal the impression made upon me by these first researches, as the most general consequence; which is, that, if the habitation of mountains and large cities, and the use of certain aliments, seem to defend the population against a too frequent occurrence of hernia, it is to the difference of races that must be ascribed the difference of the proportions pointed out. The vast territory of actual France has experienced, perhaps more than any other portion of Europe, the influence of numerous imigrations. The race, probably the most ancient of the soil, shut up in the Armorican peninsula, and recognizable still by its aspect and its language, is that of the Cymri, the population of ancient Brittany, less subject than any other to the development of hernia. There especially where it is preserved the most pure, the proportion of these infirmities is exceeding small; it increases perceptibly in the sole department where industry and commerce have called foreigners. Maine and Anjou, nearer the centre of the empire of civilization, with a more mixed race, already contrast with Brittany by the number of their ruptures. Something similar is seen in Normandy, where the old population has been replaced, or intermixed with the Danes; there also the department of the Lower Seine, opened by commerce to men of all races, seems to have lost its primitive national vigor. Lastly, it is difficult not to be struck with the contrast between the people of Picardy and Artois on the one hand, and

those of the department of the North, on the other, where the Belgic or Flemish race predominates.

"Look now through the northeast; Lorraine, Burgundy, Franche-Comté, will show you the Gallic blood mingled with the Germanic; in the southeast, Lyons and the Dauphin have similar origins; Provence unites in its modern population the descendants of the Ligurians, Greeks, Romans, and Visigoths; and lastly Aquitaine belongs to the Iberian race. There remain at the centre, the families of the Gallic or Gallo-Roman race, better preserved from invasions than the others by their position. This is ancient France, and almost to this day the France of Charles VII., constituted chiefly of Champagne, Isle-of-France, Orleans, Touraine, Poitou, &c., where ruptures are seen to predominate. To the influence of the race, add now, if you will, the influence of the soil inhabited for ages, plains or mountains, then perhaps the influence, less energetic doubtless but always perceptible, of certain aliments; and you have, if I do not deceive myself, the elements necessary to elucidate this capital fact; the differences of the predisposition to hernia in the various provinces of France. Be the explanation what it may, the fact itself is unquestionable; and this difference exceeding the proportion of 4 to 1 in conterminous provinces, as in Brittany and Poitou, is it astonishing that the statistics of hernia in England, Holland, and Belgium, even when most worthy of confidence, give results different from ours?"

Malgaigne, in conclusion, thus meets an objection which these last researches may suggest against the first:

"For, if the rich are less subject to hernia than the poor, the citizen less than the peasant, the mountaineer less than the dweller in the plain, and certain races less than others, is not all that I have elaborated upon the relations of hernia to population, sex and age, again called in question?

"But it must be considered that for the proportion from the age of 20 to 21 years, I have made my calculations for the whole of France;

That these calculations were found just for Paris in particular, which is an epitome of France;

And that for the other proportions relative to the sexes and the different ages, the population of Paris, which furnished me with the elements, is in reality the one which best represents that of France." C.

ART. IV.—*The Principles and Practice of Medicine.* By JOHN ELLIOTSON, M.D., Cantab.; F.R.S., President of the Royal Medical and Chirurgical Society; President of the Phrenological Society; late Professor of the Principles and Practice of Medicine, and of Clinical Medicine, and Dean of the Faculty of Medicine, in University-College, London; late Senior Physician to the University-College-Hospital; Fellow of the Royal College of Physicians; formerly Physician to St. Thomas's Hospital, and President of the Royal Medical Society of Edinburgh. Edited by NATHANIEL ROGERS, M.D., Member, and late President, of the Hunterian Society of Edinburgh; and Corresponding Member of the Medico-Chirurgical Society of Dublin; and ALEXANDER COOPER LEE. *First American, from the Second London Edition, greatly enlarged and improved. With notes and additions;* by THOMAS STEWARDSON, M.D., Physician to the Pennsylvania Hospital. 8vo. 1 vol. pp. 1045. Carey & Hart. Philadelphia. 1844.

It is fortunate for the modern critic, that he is not compelled by the usages of his profession to graduate his reviews by the size, the length, the breadth, or the *weight* of the works which he is obliged from time to time to notice. Were the reverse the case, a long period would necessarily elapse before we should be permitted to drop the curtain between our readers and the volume which stands at the head of this article. Of the very numerous treatises on the Principles and Practice of Medicine with which the press has teemed during the last quarter of a century, that of Dr. Elliotson is not only one of the most ponderous, but, in many respects, one of the most singular that has fallen under our observation. Published in octavo form, bound in substantial sheep, and comprising upwards of one thousand closely printed pages, its weight, we are assured, is fully equal to that of the fœtus at the end of the seventh month. We do not mean by this to intimate that its birth was premature, or that it would have grown to a still more gigantic size, if time had been allowed the learned author to bring it out himself. Its title-page exhibits, it will be observed, in large and small type, not less

than twenty-eight lines, interspersed with the names of four individuals, one of whom stands in the light of principal, the others in that of "aiders and abettors" of this extraordinary offspring of the medical press. The principal, to whom we owe the bone and sinew of the work, had no agency, it would seem, in sending it forth. The lectures which he delivered were copied, published in medical journals, and, attracting an uncommon share of attention, have been arranged and sent abroad by the three editors in their present form.

The volume, which is unquestionably one of great learning, is dedicated with perfect propriety to Lord Brougham, the noble patron of letters in Great Britain, and the only omission which one regrets to find, in contemplating its portly figure and *Falstaffish* physiognomy, is that it is not embellished by the likeness of the author, his commentators, and, especially, his American *appendiculus.* How so glaring a blunder could have been committed, considering the tact and taste of the editor at Philadelphia, is not easily understood. The omission certainly constitutes a defect which must strike every reader, and we therefore cannot forbear the expression of a hope, that it will be supplied in a second edition, an early call for which is rendered certain by the very valuable "notes and additions" of Dr. Stewardson. In that event we would respectfully suggest, that Dr. Stewardson, instead of placing himself, as he has done in the present instance, with characteristic modesty, at the foot of the page, "*locate*" himself in the *centre* of the frontispiece, with Dr. Elliotson above, Dr. Rogers on the right, and Mr. Lee to the left, with a wreath encircling the group, and resting upon the brow of the American editor. The latter gentleman is quite too modest. We insist upon his taking a more conspicuous position. His contributions to the volume before us entitle him to it. But if they do not, the fact of his having so generously taken it upon him to patronize the efforts of Dr. Elliotson, most unquestionably does. Dr. Elliotson, president of the phrenological Society of London, and late Professor of the Principles and Practice of Medicine in University-College, &c., is little

known in this country, and the kindness of Dr. Stewardson in stepping forward to endorse his labors, cannot be too highly appreciated. The American profession, on this account, owes Dr. Stewardson a heavy debt of gratitude. But for this opportune service, Dr. Elliotson's Practice might have fallen still-born from the press, and thus would have been lost to our countrymen all the learning and experience which this great work embodies.

Seriously; we are no admirers of the *grafting* system so long and so much in vogue in this country. It is quite too much the fashion with us, to seize upon foreign books the moment they touch our shores, add a few meagre, if not worthless notes to them, stick a name into the title-page, and then strut abroad in large gilt letters upon the cover, with all the complacency of the jackdaw in his stolen feathers. Often, as in the present instance we suspect it will be decided, the size of the book is swelled, without any addition to its real value. Matter is infused into it which operates much like the water added by dishonest dealers to spirits. There is extension, but no increase of weight. The volume grows, but its additions are such as to cause its readers, in the bitterness of disappointment, to cry out "a *great book* is indeed a great evil." It is in such cases that we feel the force of the saying of the old poet, that "*the half is greater than the whole.*"

The volume to which Dr. Elliotson's name has been appended is a work, which could not have emanated from any but a great, original, and highly cultivated mind. It is replete with learning, and with the rich experience of a man who has seen much of disease, and is accustomed to think for himself. Every page bears the impress of a clear and untrammelled intellect, not free from prejudices, we dare say, and prone, perhaps, to be dazzled and carried away by novelties of a certain character. But it is a mind of so much vigor, so capable of enlarged views, and so frank and fearless in the adoption and advocacy of what is felt to be the truth, that one readily overlooks the few aberrations into which it may have been betrayed. In looking through the practical and judi-

cious pages of this elaborate volume, one is disposed to forget that its gifted author gave himself up to the delusions of animal magnetism; and if any one should take the volume up with prejudices against it on that account, which we confess was our own case, they must be very perverse prejudices if they do not soon yield to the strong good sense in which it abounds.

Of course, we have no thought of attempting an extended analytical notice of this work, but will make a few extracts which will serve as specimens of Dr. Elliotson's very agreeable manner, and the first shall be from his introduction. He is speaking of medical education, and in referring to the two classes of medical men in England—the *physician*, and the *general practitioner*—and to the objection urged by some to an improvement in education, that it would make the latter equal in knowledge to the former, he introduces the following very agreeable history of his rise in his profession:

"In *me* such narrow views would be the height of baseness, and would be the height of ingratitude; for I hesitate not to avow,—I rejoice in this public opportunity of declaring, that to the general practitioners of England, Scotland, and Ireland, I am indebted for success in my profession. When I commenced my professional career, I determined upon seeking for success by working hard; and by conducting myself as well as the infirmity of human nature would allow. I determined, however long I might wait for success, never to fawn upon and run after my superiors, nor to stoop meanly to my inferiors; never to intrigue for an advantage, nor to employ trumpery artifices for making myself known to the public. For many years I toiled; and saw most of my contemporaries, —nay, of my juniors (who worked less, but were wiser in their generation) pass by me. I published work after work, —edition after edition; and paper after paper was honored with a place in the Transactions of the first Medical Society in Europe. I was physician to a large metropolitan hospital; and had attended there, and gratuitously out of doors, above 20,000 patients. But in vain. In the year 1828 my profession was no more lucrative to me than in 1818, and was as short of my actual expenses. At that time the "Lancet" was pleased, now and then, to publish a clinical lecture, delivered by me at St. Thomas's; and my practice at once doubled.

The following year it published the greater part as I delivered them; and my practice doubled again. Next season, the "Lancet" published them all; the "Medical Gazette" followed its example; and my practice doubled a third time. This astonished me the more, as my clinical lectures were generally delivered with little or no premeditation; while all that I published myself had cost me great labor, many a headache, and much "midnight-oil." It was through the general practitioners, in the large majority of instances, and through general practitioners (for the most part) with whom I had not the honor of any acquaintance, that the publication of those lectures accomplished my success. To the body of general practitioners, therefore, I owe a debt of gratitude. They have called me forth spontaneously, from no interested motive; and I cannot exert myself too much in the education of their successors.

The following remarks are just, and are entitled to the careful consideration of the young practitioner:

It is in making an accurate, careful diagnosis, that the medical practitioner chiefly shines. When the nature of a disease is once ascertained, it is no difficult matter to treat it. Other qualities of mind are then required;—frequently only courage, or mere perseverance; but it is in making a diagnosis,—in ascertaining the character of a disease, that the scientific practitioner outshines the inferior. Unfortunately this is a point not attended to as it ought to be. Many persons pride themselves in being good practitioners; because, without knowing what is the matter, they can say what will do good. It is an unscientific way of proceeding; and even if I could not practise better for making a good diagnosis, still I would be as particular on that point as possible, for the sake of observing a good general rule,—for the sake of endeavoring to treat the patient better than I otherwise could, notwithstanding all my conceit; and for the purpose of being ready to meet any unexpected emergency that might arise. A medical man who will not take the trouble to establish a diagnosis, is just like a surgeon who will not condescend to learn the anatomy of hernia; but who says that he knows if he cuts this way and that way, he shall liberate the entangled parts, and accomplish the operation as well as the best. I have witnessed this; but, then, what are such men when a difficulty arises? They are lost in perplexity, and glad to apply to those who know better. It is impossible to be too minute in making a diagnosis.

Of the pulse he remarks:

"We must also remember, as physiologists, that the pulse differs in every age,—that the younger we are, the more quick is the pulse; also that the pulse of the female is quicker than that of the male; and that, generally, the inhabitants of a warm climate have a weaker pulse, than those in a more temperate latitude. It is necessary to take all these things into consideration; because, if we were to find the pulse of a child 120, and that of an adult laboring under fever likewise 120, we should commit a great error in supposing that the child likewise labored under fever. It is necessary, therefore, to remember that the pulse varies according to age, sex, and climate; and that in young children it is particularly quick. I had an instance of the great use of examining a patient in bed, and not being contented without what is contemptuously called "a *mechanical* examination," in an enlargement of the abdomen:—

Case.—I was called to visit a pregnant lady, about thirty years of age, whose pulse was about 80 or 90; but on listening to the abdomen,—she being single, and having some disease (as she said,)—there was another pulsation, about 128. The pulsation did not arise from any of the branches of the iliac arteries; for their pulsations would have been the same as at the wrists. She had a pulse of 80; something within her had a pulse of 128; and what that was, I left her to settle by herself. All that I could say was, that if she waited patiently, the whole of the disease would come away, to a certainty, in two or three months."

The author cites many curious cases under the head of "*derangement of the digestive organs,*" as follows:

"Sometimes the appetite is not simply *deficient*, but is *depraved.* This is particularly seen in females; and is called "pica" (*a magpie;*—an animal said to be subject to this complaint.) Sometimes young ladies long for chalk, cinders, or sand; and they will bite glass,—munch it; and, when it is small enough, they will swallow some of it. I saw a lady, who ate *brown* paper; she longed for something to eat,—for something that she had never eaten before; but she could not tell what;—nor could I. I have heard of cases where the patient longed for raw flesh, and even for *live* flesh; so that some have eaten live kittens and rats. This is an absolute fact. In the same way, some have been known to long for the contents of snuffers; and even for manure. A case is de-

scribed of a man who ate a live pig,—leaving the intestines; but, after a little while, he ate them also. There is a case described, at full length, in a German work, of a boy who had such a longing for lime, that he ate all the mortar he could pick out of the wall; and, being well horsewhipped for it, he then commenced on a *neighbor's* wall. In order to prevent this, however, the neighbor smeared the wall with a decoction of wormwood, and the boy could no longer relish it; but he then went to the kennel in the street, and sucked up the sand. He had a desire for something dirty. After this he got to some quick lime; and was forced to drink a large quantity of water, to extinguish his thirst. The mucous membrane within, had a distaste for what is called "*good* food;" but, in other respects, he was quite well. I recollect having read of a girl, and also of a student at Leyden, who always ate spiders when they could get them; and no harm arose from it. I have read of a man who disliked bread, and never ate it; but he was seized with a quartan ague, and then ate a large quantity. He recovered from the ague; and the disgust towards bread returned. This disease occurs in young women (even moral ones) who do not menstruate well;—as I mentioned when speaking of chlorosis; and many pregnant women have some strange longing of this description. Every one must have met with instances of women longing for what it was difficult to get;—longing for things out of season. There was one who longed for a bit of the priest's sleeve, and contrived to get at it and bite it;—not caring for his excommunication. I could relate cases, almost without end, of this description. One dipped her bread in a tar-tub. I never met with these extreme cases; but every one must have read of instances of this nature."

We saw a striking instance of the sort last summer. The subject was a young married woman. She had an ungovernable propensity to eat newspapers: the smell of a printing office nearly distracted her. She ate newspapers every day in large quantities. Her digestion became greatly deranged; bowels torpid; complexion exsanguineous. The depraved appetite was corrected by the use of iron—the prussiate or carbonate—and she is now in pretty good health. Whenever she feels any return of the odd propensity, she resorts to the iron, which she has found to be an effectual remedy against it.

Concerning sluggishness of the bowels, our author has the following observations:

"Very frequently, the stomach is not in fualt; but there is a sluggishness of the intestines; and, as the cause is situated there, a regular course of purgative medicine will be found absolutely necessary. It is wrong to give *strong* purgatives. Those which open the bowels regularly, are best adapted for the purpose. It is astonishing how long things taken into the stomach and intestines, will remain quiet; and then give rise to various symptoms. I alluded to the circumstance before. In the "Philadelphia Journal," for 1822, there is an account of a coagulum of milk, which was vomited two months after it had been taken. I have myself seen a coagulum of milk, like bird-lime; which had remained some days (even a week) in the patient's stomach, and produced the greatest uneasiness; —the stomach not being in fault, but being oppressed by this particular substance. I have seen a piece of salmon vomited by an infant, a month after the nurse had been so foolish as to give the child that food. I mentioned, that Dr. Barlow (of Bath) published a case, in which pills of sulphate of iron were discharged, *per anum*, nine months after they had been taken. In a foreign journal, a case is mentioned, similar to that of Dr. Barlow's;—a case in which pills were vomited, a year after they were taken. An instance is recorded, in which a blacksmith's son bolted thirty grapes. He did not *masticate*, but swallowed them *whole;* and, after three months frequent vomiting and extreme suffering, he was cured by an active purgative medicine. Ten of the grapes came away whole, even then. A case is mentioned by Bartholini, where a coagulum of milk, as large as a man's tongue, was discharged, after the patient had taken muriatic acid. The same author also mentions a case, where a patient had swallowed a swine's tooth. He suffered under hypochondriasis and extreme emaciation, for two years; the tooth was then discharged *per anum;* and the individual perfectly recovered. Occasionally, then, we may have disorder of the digestive organs from articles which have been taken, and have remained in the stomach and intestines a much longer time than we could imagine. If, in a case of disorder of the digestive organs, we suspect any thing of this kind, we ought to employ strong remedies. Purgatives and injections, of course, are very important.

"But whether this be the cause of the disease or not, it is of the highest importance to keep the bowels regular. Nothing

can be worse than to give strong purgutives for this purpose; except where there is something considerable to be brought away. In a case of habitual costiveness, strong purgatives are decidedly bad; because, when we have once acted violently on the intestines, the latter, according to the laws of nature, must fall into a torpid state,—go to sleep. During this condition of repose, the fæces accumulate again; so that we have to give another strong dose, in order to remedy the mischief of the first. Thus the person is always costive, or taking strong medicines; the consequence of which is, that he is at last obliged to take them, or he will fall into a state of dyspepsia."

Our readers would hardly pardon us if we closed this article without some further account of the American editor, in whose history they must, by this time, feel an extraordinary interest. Be it known to them, then, that he was educated in Paris, under the fostering care of Louis and Chomel, whom he appears to regard himself as having already distanced in his scientific achievements. He is the translator of a memoir on Emphysema of the lungs, by one of his illustrious Parisian masters, M. Louis, physician to La Pitié. In this paper he takes occasion to say, that having had an opportunity, during his daily visits to that establishment, of observing for *himself* a portion of the patients referred to by the author, he is able to *vouch for the care and attention bestowed upon their examination.* Notwithstanding all this care, such was his astonishing acuteness that he was able to discover and correct several errors contained in the original—a circumstance which, if we consider the infallibility of the French observers, must be allowed to place him in the very front rank of medical philosophers.

Dr. Stewardson is also a contributor to the pages of the American Journal of the Medical sciences. His papers, when the writings of others have been under consideration, are marked by a singular spirit of ingenuousness. He is scrupulous never to distort the meaning of the author, and rarely misquotes a sentence, where he supposes there is much danger of detection. If his style is not always the most courteous, it is plainly because there are few men, living or dead, whose

writings he considers as entitled to the slightest respect. An author of so much genius can hardly be expected to regard the efforts of the common race of mortals, with any other feelings than those of contempt. His acerbity of manner, and his numerous misrepresentations must be ascribed to this genius, which is too proud to look closely enough at the labors of others to understand them.

The most important original papers of our *savan* are contained in the numbers of that journal, for April 1841 and April 1842: they are entitled "Observations on Remittent Fever," and are illustrated by the numerous cases of the disease which the author had an opportunity of witnessing in the Pennsylvania Hospital, of which he is so distinguished an ornament.

This paper leaves nothing to be desired,—the subject is literally exhausted; and if the disease which it investigates has not been effectually eradicated from the human system, it is not the fault of its amiable and candid author. To attempt any thing like an analysis of it at this remote period would be a work of supererogation, particularly when it is remembered that the journal in which it originally appeared is read and admired in every part of the world where medicine is cultivated as a science, where profound thought, original research, and correct writing are appreciated, or where the supremacy of genius maintains its elevated and life-diffusing influence.

The latest contributions of our editor are, we believe, his "Notes and Additions" to the work, the title of which stands at the head of the present article. These consist mainly of two chapters on remittent and yellow fevers, topics as he informs us, but cursorily treated by Dr. Elliotson and his other commentators.

We were disposed to find fault with Dr. Stewardson for the brevity of his notes and editions, until we recollected that the intrinsic value of a work does not always consist in the number or magnitude of its pages. In composing the two articles under consideration, the author was evidently governed by the maxim of the ancient philosopher, that "a little thing gives

perfection, though perfection is not a little thing." The chapter on remittent fever is condensed from the immortal paper, already adverted to; that on yellow fever appears for the first time in these pages. It occupies precisely *eight pages and a third*, and is founded upon the observation of *a case* of that disease as it occurred in the Pennsylvania hospital. In this short space we are presented with a most graphic outline of the natural history of this truly horrible malady, its anatomical characters, diagnosis and nature, causes, mortality and other circumstances, together with a most able and learned account of the treatment. Considering his limited opportunities, it must be acknowledged that Dr. Stewardson has done wonders. He has in, truth, afforded full proof of the proposition, that "it is the peculiar privilege of genius to accomplish ends without advantages, and to overcome difficulties insurmountable to ordinary minds." If he had enjoyed more enlarged opportunities of observing and studying yellow fever, there is no doubt whatever that he would have exhausted the subject, as he has that of remittent fever. When we reflect upon his extraordinary powers as a writer and an observer, we cease to wonder that he did not, in this part of his labors, think worth while to avail himself of the researches of Rush, Jackson, Catel, and others—authors whom he esteems as quite obsolete. Louis. as is natural, he mentions with a singular degree of complacency, which arises probably not so much from any supposed excellence, as because it was his good fortune to be the preceptor of Dr. Stewardson. Several other writers, are also occasionally alluded to, but evidently with a degree of suspicion, clearly indicating that very little confidence is to be placed in their productions. This is as it should be; nay, as it must be. They lived before the discovery of the *numerical method*—before Louis, Chomel, and Stewardson, and therefore justly deserve to be forgotten.

Judging from the extraordinary ability displayed in the whole of this chapter on yellow fever, and the circumstance that it is founded upon the observation of a *solitary case of the*

disease, we are convinced that Dr. Stewardson is the only man in the profession competent to furnish a treatise on the art of writing medical books. We would therefore respectfully suggest to him the propriety of such an effort.

The modesty of Dr. Stewardson—we must be pardoned for recurring to this amiable trait in his character—is strikingly exhibited in the position he has taken for his additions to Elliotson's Practice. It is well known that the most prominent parts of every book are the beginning and the end thereof. Now, instead of introducing his "two chapters" at one or the other of these points, he has modestly placed them in the middle of "*Stewardson's Elliotson*," where, but for their superior excellence, and the circumstance of their being included in brackets, and headed by the name of the author in large capitals, they might readily escape the eye of the heedless student.

Dr. Stewardson, we are sure, does not belong to the tribe of writers, of whom we have spoken, who fancy themselves at liberty to mutilate the writings of European physicians, and engraft upon them their own crudities. He is a writer of parts, and we cannot forbear to thank him for the opportunity he has afforded us, by his contributions to this work, of introducing him to his backwoods' brethren. His are productions which they "will not willingly let die." Elliotson, President of the Phrenological Society of London, and late Professor of the Principles and Practice of Medicine in University-College, might have been forgotten; and even the name of Lord Brougham might have passed from the memories of men, but for its fortunate association with that of Thomas Stewardson. They are indeed lucky men—

O fortunatos nimium sua si bona norint.

Selections from American and Foreign Journals.

Proximate Cause of Hæmorrhage.—M. Andral, in his recently published Essay on Hæmatology, states it, as the result of his experimental researches, that some hæmorrhages are always connected with, if not immediately dependent on, a state of blood in which there is an excess of red globules; while others are very usually associated with an *hæmatosis*, characterized by a deficiency of the fibrine in the circulating fluid. The former are observed to occur in persons of a plethoric constitution; but they are far from being either as frequent, or as serious, as the second sort of the disease, such as takes place in scurvy and similar diseases. Is not this division of hæmorrhages very much the same as that adopted by the old writers, viz: into *active* and *passive?*—a division that is incompatible indeed with certain theories of modern times, but one with which neither clinical medicine nor therapeutic instruction can dispense.

(The remark made here is quite just. There are several kinds of hæmorrhage, just as there are several kinds of fever; it cannot therefore be wonderful that the same treatment is not appropriate in all. One case may require bleeding, and nauseating purgatives; while another demands the use of powerful tonics and astringents. The *internal* exhibition of alum is, we think, too much overlooked in the present day, as a powerful means of arresting many hæmorrhages).—*Med. Chi. Rev.*, Jan.

Mercury in Scrofulous Affections of the Lungs.—Dr. Graves makes some valuable, because practical, remarks on the effects of mercury in scrofulous affections of the lung. He was first led to the adoption of this mode of treatment by the successful results of mercury in the hands of Dr. O'Beirne in treating scrofulous inflammation of the joints. This employment of mercury in the treatment of scrofulous diseases was directly in the teeth of the prevailing theories of the day, according to which mercury was not only inadmissible, but absolutely mischievous in persons of a scrofulous diathesis. Dr. Graves was led by analogy to apply the same principle of treatment to incipient scrofulous inflammation of the lung. He points out the cases to which such treatment is applicable; it is, he says, only in those cases wherein scrofulous inflammation commences in the lung before any general contamination of the system has taken place, that mercury ought to be tried, and it will be of no avail except where the commencement of the scrofulous inflammation of the lung has arisen suddenly, and in consequence of the operation of some obvious cause, as catching cold, or the occurrence of hæmoptysis. Dr. Graves thinks that too much stress has been laid on the affec tion of the lung by writers on phthisis. In most cases, no doubt, the disease commences in the lung; but, in other cases, it passes through many changes, and affects various organs before it attacks the lung. Dr. Graves has a decided objection to the terms, "tubercular inflammation," and considers the whole theory of inflammation being excited in the lung by the presence of tubercles, to be founded on erroneous views. He considers, also, that tubercles do not act in all cases on foreign bodies. He thinks that, in the treatment of scrofulous bronchitis and scrofulous pneumonia, mercury is a most valuable remedy—where the attack is recent, and has occurred under circumstances which preclude any suspicion of previous tubercular disease.—*Med. Chi. Rev.*, Jan.

Veterinary Surgery.—We now pass on to notice a very remarkable form of hepatic disease in the horse, which well deserves the notice of the human pathologist.

It appears that, although a horse seems to be in perfect health, and is moreover capable of laborious work, the liver

may have become so softened and pulpy and its peritoneal covering so loosely adherent to its parenchyma, that a sudden exertion will cause a rupture of the viscus, and an immense extravasation of blood into the abdomen, to take place. The accident, as a matter of course, is generally fatal, and the death is sudden. The curious circumstance in this disease is that, in most instances, there are no premonitory symptoms of any hepatic derangement; the animal often has been remarkably healthy, the biliary secretion regular, and the alvine excretions natural. When the extravasation is large and rapid, the symptoms are those of internal hæmorrhage—pulse irregular and indistinct; action of heart tumultuous; profuse sweating; pawing; curling of the upper lip and pouting of the nose; lifting the hind legs to the belly; hurried respiration and deep and frequent sighing; distended abdomen; blanched conjunctiva and buccal membrane; amourosis; extreme debility; fainting and death.

In some cases, however, although the parenchyma of the liver has degenerated into one huge mass of bloody pulp, its peritoneal coat remains entire, or is only slightly ruptured. The symptoms then are much more indistinct than those we have just enumerated, and often far from being satisfactory, as regards the diagnosis. Weakness and faintness at work, diminished appetite, swelling of the hind legs, fulness of the abdomen, buccal and Schneiderian membranes pale, pulse frequent and feeble, occasional sighing, partial amaurosis, with dilated pupil of one or both eyes—these are the most common features of the case.

Purpura Hæmorrhagica in the horse is characterised by the occurrence of petechial and ecchymosed spots and patches in almost every part and tissue of the body—on the skin, the Schneiderian membrane, the conjunctivæ of the eyes, under the fasciæ and in the substance of the muscles, and occasionally also in the lungs, kidneys, and other viscera. The animal is uneasy, and in pain; his breathing is usually hurried and snuffling; and his pulse is rapid and wiry, or full and strong. As the disease advances, the echymosed swellings become confluent; a sero-sanguineous discharge drips from the nostrils; the Schneiderian membrane is sometimes nearly black; the circulation is more frequent and feeble; *the horse paws, or looks back, or anxiously turns his head from side to side* (a graphic description;) he totters, if made to walk about; becomes weaker, and dies. If blood be drawn, it is found to be thin and pallid, and separates rapidly into its two portions. The

urine occasionally contains much albumen, and coagulates by nitric acid and heat: sometimes it is mixed with blood.

As Mr. Field remarks, the disease is seemingly referrible to a morbid condition—characterised chiefly by an increased tenuity—of the circulating fluids. There may indeed be present, at the same time, an unusual laxity and dilatability of the blood-vessels, with a certain degree of obstruction in the capillaries, and an augmented impetus in the heart's action; but certainly the primary and essential feature of Purpura is an alteration in the composition and vital properties of the blood itself. This opinion is confirmed by the circumstance of its usual exciting causes being general debility, poor living, unwholesome diet, and excessive labor.

As to the *treatment*, bleeding may be occasionally necessary, when vital organs are affected or threatened; "but it rarely (does it ever?) benefits." Turpentine is useful; so are the sulphate of iron, the mineral acids, &c. The cold effusion is "particularly good." The pure air of the country, with grass feeding, is the best restorative.

In a fatal case of Hæmaturia, the peritoneal coat and cortical substance of the kidney (kidneys?) were entirely destroyed. The ureters were filled with blood: the bladder contained about two pints, mixed with urine. The liver was very pale; the intestines healthy. About a pint of blood was found within the pericardium. In another fatal case, where the quantity of blood lost had been enormous, the tubuli uriniferi and pelvis of the left kidney were found ulcerated, and the texture of the right one was soft and flabby.

Lithotomy.—The symptoms of calculus in the bladder are, as might be supposed, very much alike to those that are observed in the human subject. We read of the animal "staling blood after work,—continually making attempts to stale—straining violently and voiding only a small quantity at a time —and the urine being turbid and alkalescent." The actual presence of the stone is ascertained by an examination *per anum*, and by the introduction of a catheter or sound into the bladder. The following account of the mode, in which a horse is cut for the stone, is well worth a perusal: we cannot abridge it without injury.

"The animal was cast in the usual manner, and both hind legs were drawn to the shoulders, as if for castration. Read's new flexible catheter being passed into the bladder, a quantity of warm water was injected, sufficient to distend that organ and the urethra moderately. The catheter being withdrawn,

and holding the penis with the left hand, a slightly-curved groove staff, two feet long, was introduced, so as for the curved part to come into the sub-anal portion of the urethra, above the posterior edge of the ischium, extending towards the sphicter ani. An assistant kneeling on the left side of the horse, drew the penis forwards with his left hand, and gently pushed the staff backwards with the right, at the same time keeping the groove exactly beneath the *raphe*; this elevated the portion of the urethra to be incised. I then made an incision, a line from and on the right side of the *raphe*, through the skin and fascia, extending the length of it from three to four inches; and, pushing the penis a little on one side, I gradually divided the muscular and spongy portion, and exposed the mucous membrane of the urethra, when the finger readily detected the groove of the staff, into which a small incision was made sufficient to admit the *bistoire cachée*, following which with the index finger of the left hand, the membrane was divided to the rectum. Very little blood flowed, and the water of the urethra gushed out. The staff being removed, I easily introduced the small forceps through the urethra into the bladder, and grasped the stone, a portion of which flaked off. The large forceps were then employed, and, my brother holding the handles, I directed the blades upon the stone, my left hand being in the rectum. Having placed the stone in a proper position, I grasped it with the forceps, and with both hands gave it a half-turn, so as to place its widest axis between the pubis and rectum; and thus, with a moderate force, I gradually and evenly drew it out, the neck of the bladder readily dilating. Two stitches were inserted in that part of the incision nearest the anus, the lower part being left to itself."

The calculus consisted entirely of carbonate of lime and animal matter. The animal did well.—*Med. Chi. Rev.*, Jan.

On the Increasing Frequency of Cancerous Diseases.—M. Tanchon remarks, "that there is reason to believe that the frequency of cancer is on the increase, more especially in large towns. Mr. Farr tells us that, in 1838, the number of deaths (in England, we believe) from this cause was 2,448, while in 1839 it rose to 2,691. My own inquiries lead to a

similar conclusion; for, from a registry of cases of cancer of the uterus, I find that there were in—

	Cases.		Cases.
1830 - -	351	1833 - -	498
1831 - -	391	1834 - -	436
1832 - -	396	1835 - -	508

* * * * * * *

"Cancer, like insanity, is of much more frequent occurrence in civilized than in barbarous countries. Long ago it was remarked in the East, that the disease was much oftener found in the Christian than in the Moslem population there. Fabricius Hildanus was of opinion that it was more frequent in temperate than very warm climates; and this opinion has certainly been confirmed by the experience of some recent observers. M. Hamon, an eminent veterinary surgeon, who has been attached to Mehemet Ali's service for 14 years, informs me that he has never seen a case of genuine cancer in the native or Fellah women, and not many even in the Turkish women of Egypt. M. Clotbey has made a similar remark; and M. Bac, surgeon-major of the second regiment of African *Chasseurs*, never met with a single case during the six years that he resided at Senegal. Again, M. Baudens, now the head surgeon at the Val de Grace, whose practice at Algiers was most extensive for a considerable number of years, did not meet with more than two or three instances altogether."

M. Tanchon closes his remarks with the following general conclusions:

"1. The frequency of cancerous diseases appears to be on the increase, and this frequency seems to be proportionate to the degree of civilization to which a people has attained.

"2. It is towards the decline of life, and more especially in the female sex, that the development of cancer is most to be dreaded; but early age is not entirely exempt from its attacks.

"3. Glandular organs, and those in particular which are the most susceptible of excitement, are most frequently the seat of the disease.

"4. The proximate cause of the disease appears to exist in every part of the system; but rather in the fluids than in the solids.

"5. When not induced by any external cause, it seems to result from a molecular organic modification or lesion of the part, occasioned by various causes, which as yet are but little known.

"6. In the actual state of our knowledge, the treatment of cancer can be little else but empirical, like that of syphilis, dartres, &c. Still there is reason to hope that we may yet learn how to arrest, if not actually to extirpate, the morbid process. In many cases, we well know that the disease is remarkably stationary for a great number of years, and indeed that its existence seems not much to interfere with the full prolongation of life. What are the circumstances favorable to inducing such an arrest, we indeed are almost wholly ignorant; but much may be expected from a careful watching of such cases by metropolitan surgeons, and others who have the opportunity of seeing many cases of cancerous maladies. The regulation of the diet is unquestionably of primary importance, and hence every means should be adopted to keep the digestive and assimilative organs in a sound healthy condition, in order that there may be a regular supply of wholesome chyle."—*Gazette des Hôpitaux.—Med. Chi. Rev.*

Veratria in Facial Neuralgia.—An ointment composed of veratria, one part, to eighty parts of lard, has been found very useful as an external application in cases of facial neuralgia. But the preparation is much more efficacious if made with rancid instead of fresh lard, which is probably owing to a salification and greater solubility effected in the veratria by the agency of the free acid in the fat.—*Braithwaite's Retrospect.*

Advantage of Medicines in a Liquid Form.—It has been found that fifteen grains of sulphate of quinine, given in infusion of senna, is more efficacious as a tonic, notwithstanding the purgative quality of the mixture, than twenty-four grains of sulphate of quinine administered in the form of pills. Panizza supposes the causes of this to be that the senna, by promoting the peristaltic action of the alimentary tube, and augmenting the secretion of the bowels, excites the production of a fluid adapted perfectly to dissolve the quinine; and that the quinine, in passing through the intestine in a state of solution, is placed in contact with a much larger extent of surface, and disposed for absorption much more rapidly than if taken in a solid form.—*Panizza, in L'Experience—Lancet,* November 4.

The Automaton with Articulated Voice.—We have had the pleasure of examining privately this *chef-d'œuvre* of human ingenuity—the result of eighteen years' unceasing labor, by a German, named Faber. It is constructed upon the model of the human organs of voice, the tongue, larynx, &c., being made of caoutchouc. As voice is the sound produced by air driven from the lungs through the larynx, causing a vibration of the chordæ vocales, it is a function of *animal* life; but this function, in animals inferior to man, as well as in the idiot, is limited to the production of the *simple* or *instinctive* voice; while, in intellectual man, it becomes sufficiently complicated for the purpose of articulation. This is regarded as an evidence of man's intellectual superiority. Here, however, we find the same phenomena produced by an apparatus of caoutchouc and a bellows!

The automaton is represented by a bearded Turk, and the articulations are produced by playing upon sixteen keys. We were quite surprised at being addressed by the automaton, in words very distinctly articulated, thus: "Wel-come Doc-tor For-ry. Please excuse my slow e-nun-ci-a-tion." After giving various other illustrations of his vocal powers, the automaton sang "Hail Columbia," &c.; as we were about leaving, he said, "Gen-tle-men, I thank you for your vis-it."

But, after all, *cui est bono?—New York Jour. Med.*

Capsules of Cod-Liver Oil.—We have been shown by Mr. Milhau, at his pharmacy, 183 Broadway, beautiful capsules of cod-liver oil, prepared by Mr. W. F. Stone, by means of which the unpleasant taste of this medicine is wholly obviated, Each capsule contains, besides the cod-liver oil, one-twentieth grain of iodine. This oil is a remedy which has recently come into notice, as shown in some of our previous numbers; and, in Germany, it is regarded almost as a panacea.—*Ib.*

Compliment to the Memory of Sir Charles Bell.—Sir Robert Peel has addressed the following letter to Lady Bell:

"*Whitehall, September* 4.

"*Madam:* I have had great pleasure in recommending to Her Majesty, that in consideration of the high attainments of your lamented husband, and the services rendered by him to

the cause of science, a pension of one hundred pounds per annum for your life, shall be granted to you, from that very limited fund which Parliament has placed at the disposal of the Crown for the reward and encouragement of scientific labors.

"This pension, small in amount as it necessarily is, will perhaps be acceptable to you, as a public acknowledgment on the part of the Crown, of the distinguished merit of Sir Charles Bell.

"I have the honor to be, Madam, your faithful and obedient servant,

ROBERT PEEL."

[*Am. Jour. Dental Sci.*

American Origin of Syphilis.—Although the question, whether syphilis existed in the West Indies and on the continent of America at the period of their discovery by the Spaniards, is, by the profession in this country, very generally decided in the negative; yet, in order effectually to remove all remaining doubts, and to efface completely the stigma thus cast upon the New World by the Old, at a time when, in Europe, the opinion that the human species, and indeed the whole animal kingdom, in America, had become entirely *degenerated*, we will here present the evidence of two of the most accomplished and distinguished historians of modern times. Peculiarly qualified for this decision by the nature of their literary pursuits, it will suffice to say that the one is the author of "The Life and Voyages of Columbus," and the other, of "Ferdinand and Isabella," and more recently, "The History of the Conquest of Mexico." After this testimony shall have been presented to the world, this long-mooted question must be considered as conclusively put to rest, and never more to be revived.

The following letter is addressed by Mr. Prescott to Alexander E. Hosack, M.D.

"*Boston, January* 22d, 1844.

"*My Dear Sir:* I have received your note of the last week, inquiring whether, in my researches relative to the History of Mexico, I had met with any trace of the venereal disease among the Aborigines previous to the coming of the Spaniards. I observe, also that you remark that Dr. Forry had already put the same question in a letter addressed to me some time since. I assure you that I never received that letter.

If I had, I should have answered it with the sincere pleasure and promptness with which I now reply to yours.

"In a note in the 'History of Ferdinand and Isabella,' I took occasion to express my own conviction that the venereal disease did not exist among the natives of America at the time of its discovery. I had met with no allusion to it in the narratives of Columbus or his son Ferdinand, or in any other record of the Spanish adventures.

"I have been led into a much wider range of observation in preparing the 'History of the Conquest of Mexico.' But it has served to confirm my former opinion, since I have never met with a notice of this disease, or of any which resembles it. The ancient chronicles speak of an Indian epidemic, called the *Matlazahuatl*, which swept off great numbers of the natives both before and after the Conquest, and which seems to have had some resemblance to the yellow fever. They also notice the introduction of the small-pox by a black, who came into the country the year after the arrival of Cortés. The Spaniards would certainly not have omitted to notice so terrible a disorder as the venereal, had it been found among the natives; especially, as considering their own licentious indulgence, it must have fallen very heavily on themselves. Their uniform silence, therefore, is evidence so strong, that it may be called positive, rather than negative, and may be considered as establishing the fact that the disease was not known in the Mexican empire at the time of its discovery. Whether a disease so easily propagated among adjacent tribes, and which seems to be circumscribed by no parallel of latitude, could have existed in other parts of the Continent without finding its way into Mexico, is a question which your own knowledge of the subject will enable you to determine better than I can.

"Believe me, my dear sir, very truly yours,

"WM. H. PRESCOTT.

"ALEX. E. HOSACK."

We here present the note of Mr. Irving, written just on the point of his departure as Minister to Spain:

"*New York, March* 22, 1842.

"*Dear Sir:* In the hurry of various occupations preparatory to my departure, I find that I have your note, of March 12th, lying unanswered. I have not now time to refer to papers and documents to refresh my memory on the subject of your inquiry. I recollect, however, that my impression was, while

writing the History of Columbus, that the disease you mention did not exist among the natives of America at the time of the discovery, nor among the voyagers during the first voyages; but that it originated in Europe. When I have leisure, I will look into the matter in Madrid; and should I discover any facts upon the subject, I will communicate them to you.

"Very respectfully, &c.,

"WASHINGTON IRVING.

"DR. JNO. WATSON."

[*New York Med. Jour.*

Effects of a large dose of Quinine administered by mistake.—In November, 1841, a young lady, aged eighteen, of a delicate constitution and nervous temperament, was under the treatment of a medical friend of mine for severe hysterical symptoms. Almost every evening she had repeated fits—epileptic in appearance, although decidedly hysterical in character. The remedy administered was quinine, in combination with sulphuric acid; she began with six grains per diem, which was soon increased to ten, and afterwards to twenty. When she had been taking the medicine for about a fortnight, she received a six ounce bottle, containing six drachms of quinine in solution, with an ounce and a half of the dilute sulphuric acid; of which she was directed to take one teaspoonful at a dose, in a wineglassful of water. Not regarding the directions, however, she poured out a wineglassful—about one-third of the bottle—and swallowed it.

Her first impression was one of extreme acidity of the mouth, and a most disagreeable sensation about the teeth. This was followed by nausea and extreme giddiness, and tendency to stupor. Her friends, believing that she had taken a narcotic poison, insisted on making her walk up and down, after the manner generally recommended for narcotic poisoning. After this had been kept up some time, the stupor abated, and she passed into a state of semi-consciousness, with the feeling as if she was obliged to keep moving in spite of herself. She was intensely thirsty, and drank a great deal of water. But all the bad symptoms gradually subsided without medical aid, and the epileptic fits, which were the occasion of the treatment, did not appear for a very long time afterwards. Her catamenia were brought on immediately.—*Med. Exam., March.*

Remarks on Italian Medicine.—An intelligent French physician, M. Combes, has recently paid a visit to Italy, with the view of examining into the state of medical doctrine and practice in some of the leading schools of that interesting country. We have not yet seen the original work, but, meeting with a copious review of it in one of the Paris Journals, we deemed it worth while to make the following extracts from it.

"Hippocrates has truly observed that 'in general whatever the soil of a country produces is conformable to the country itself.' This remark is quite as applicable to the inhabitants, as it is to the vegetable productions, of a country. The character and temperament of man are in no slight degree influenced by the medium in which he is born and developed; his bodily health, as well as the passions of his soul and the faculties of his mind, are all more or less under the control of the physical circumstances in which he is placed. If he is the king of nature, his sovereignty resembles that, not of an arbitrary or despotic, but of a constitutional throne, hemmed in by charters and by parliaments; and the power that he wields is ever under the weight of legal restrictions. How little suffices to alter the character and the energies of human beings! A few additional degrees of temperature, the exposure or non-exposure to a certain wind, the nature of the soil on which they live—these, not to mention many other circumstances, are found to modify not only the characters and manners of a people, but even the vigor and the power of their intellect. You aspire to the glories of science, and the atmosphere which you breathe condemns you to become an artist; your mind dreams on discoveries of practical philosophy, and pants to tread the path of calm observation, and you find that, in spite of all your wishes, your imagination cannot resist the allurements of nature around you, but plunges into the fairy domains of ideality and romance.

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"Under whatever clime human beings come into this world, they all bring with them at birth the same constitution of moral development; the same faculties lie dormant in the souls of all. These, indeed, are unequal from the first in different persons, in consequence of certain hereditary elements which stamp a peculiarity on each nation, each family, and each individual; and this inequality will be more and more strongly marked according to the influences of climate and of early education. This is the reason why nations, although possessing most of the attributes of intellectual

greatness, are nevertheless distinguished from each other by the special development of one faculty in a predominant degree. In all ages have the Greeks been pre-eminent for the fervor of their imagination, and the inhabitants of Britain for their cold and prudential reason.

"Nations, like individuals, have therefore their characteristic temperaments or idiosyncrasies of constitution. Now the temperament of Italy is its ideality; its very existence is eminently artistic. Living in a region clothed with light (*vestitos lumine colles*), bathed in a warm and balsamic air, and breathing an atmosphere of romantic associations, little is the wonder that its inhabitants are so distinguished from almost every other people for the richness and grace of their sensual conceptions. Everything in nature around them leads the mind to indulge in images of softness and beauty, and to withdraw it from abstruse and elaborate studies. Now what is the result of this tendency in reference to scientific pursuits? In schools, where pupils and masters alike have all more of the poetic temperament than they are themselves aware of, the character of the instruction will certainly be more or less dogmatic; and why?—because implicit faith is a positive *besoin* of such a mental organization. Such a state of mind naturally leads on to a taste for generalizing on all subjects, and this very tendency is promoted by the copious richness of their sonorous language. Thus it is that the systematic conceptions of the Italians, proceeding from deep conviction, lead to exaggerated applications in theorizing—and often, too, to an inordinate rashness in practice.

"The characteristic features of French medicine in the present day are a sort of disrelish for all systems, and a taste for the elaborate investigation of every problem of inquiry. Hence the practice of rigorous and oft-repeated observation, the numerous experiments, and the constant recourse to the aids of the scalpel, the test-tube, and the microscope. Indicative of the same thing is the subdivision of science into a number of different branches. Each of these is pursued with indefatigable zeal by its different votaries.

"It is scarcely necessary to allude to the characteristics of German medicine: the same laborious curiosity and indefatigable research, the same fondness for mystical speculation, the love of the marvellous and extravagant in physics as well as in metaphysics—these long have been, and still are, the prominent features of the German school."

* * * * * * *

In Italy at present (according to the observations of M.

Combes) there are very few men who apply themselves with diligence to the patient investigation of details upon any particular subject of inquiry. Most of the physicians have adopted certain general principles of medical doctrine, and on these they base their practice. Hence it is that almost all their treatises assume the synthetic form, and that, even in their works of elementary instruction, the exposition and description of details are too often sacrificed to the abstract generalities of an ingenious dogmatism.

But let it nôt be forgotten that we are talking of a country which has produced a Spallanzani, a Morgagni, a Scarpa, &c., and can still boast of Bellingeri, not to mention other distingnished names of medical literature. Yet, in spite of these eminent exceptions, it cannot be denied that many of the branches ef professional knowledge have made but little progress, for very many years, on the other side of the Alps.

Physiology has retained pretty generally a purely dynamic character; the classical work of *Medici* does not even mention a vast number of well established facts, and the same remark holds true of Professor Martini at Turin. If such be the state of physiology, or that branch of medical science that treats of the functions of the body in a state of health, we cannot be surprised that those of pathology and of clinical medicine are very faulty and defective in many respects.

"In some districts of Italy, and especially at Naples and Modena, Hippocratism is altogether prevalent. In the latter city, indeed, the Faculty of Medicine may be considered as an association less for instruction in modern medicine than for the perpetuating the doctrines of the Coan sage. The orthodoxy of the school is based upon them; everything is redolent of antiquity; the students are taught to regard the Aphorisms as the oracles of medical truth; and when they aspire to the doctorate, they are called upon to expound and illustrate one or more of these pithy sayings; and it is with their hands laid upon the works of the old Greek that they take the oath upon the day of their inauguration.

"While the doctrines of the Hippocratic medicine, more or less liberally interpreted, are almost universally received through the whole of the south of Italy, the northern half of the Peninsula has been long agitated by the disputed tenets of Contra-stimulism. Turin, Pavia, and especially Milan, are at the head-quarters of this school. Rasori, its founder, started, it is well known, as a disciple of the Brunonian doctrines, and was the translator of the Scotch physician's work. All the phenomena of disease he strove to reduce to one

simple morbid action, viz: excessive or deficient stimulation; and like every other advocate of an exclusive system of pathology, he fell into the most egregious blunders, which proved to be injurious alike to sound theory and to safe practice. All diseases he considered to be systematic or general; and local inflammations therefore he looked upon as mere complications or accidental phenomena—the very reverse of the Broussaian creed. Professor Tommasini, of Parma, adopted a sort of intermediate doctrine between these conflicting systems. Assenting to the general principle of his fellow-countryman Rasori, he was too sagacious not to observe that local irritation, when extensive or long continued, is apt to give rise to constitutional diseases. Let us not deprive this distinguished physician of his due; it is right to acknowledge that he clearly enunciated the importance of local affections, as the cause of many diseases, before Broussais had published a line upon the subject.

* * * * * * *

"One of the most eminent physicians of Italy in the present day is M. Buffalini of Florence. His clinical lectures draw a large concourse of students, and his fame nearly equals that of his distinguished rival of Parma, Tommasini. He is generally regarded as 'un medicin organicien;' and yet his lectures and practice savour strongly of the Essentialist school. In commenting upon any case of fever, he pays minute attention to every appreciable alteration alike of the fluids and of the solids, and he does not hesitate to acknowledge openly that the changes observable, either in one or in the other, are by no means uniformly in accordance with the severity of the constitutional affection, or can be considered as the proper *causes* of it. In many respects he is a decided Humoralist; but while leaning strongly to the opinion that most fevers are attributable to certain changes in the circulating fluid, he on the whole does not trouble himself much with prying into the nature of morbid individualities, but contents himself with scrutinizing their exciting causes, the various symptoms which they exhibit, and with devising the means best fitted for their relief. Every one, who has had an opportunity of witnessing his practice, speaks in high terms of it: avoiding the pernicious errors of Contra-stimulism, (which he has contributed in no small degree to throw into discredit,) he shows great discretion and tact in the use of his remedies. He has published an able work entitled '*Des fondemens de la Pathologie Analytique.*'

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"Italy is far behind France in many of the departments of medical science, and certainly in none more so than in chemistry. There are no good laboratories for the preparation of medicines, in almost any part of the country; and hence little or no progress has been made in toxicology, although the writings of M. Orfila have been long highly appreciated. What will probably surprise most travellers, as much as anything, is to find that no correct analysis of the numerous mineral waters of Italy has been made by any native physician.

"Italy possesses more journals of medicine and pharmacy than France does; (we certainly were not prepared for this announcement); but the division of the country into so many separate states places a great bar to their diffusion and general usefulness. The medical press suffers much from the consequences of the general political organism of the country; it has not a few obstacles to overcome, and a good many dangers to avoid. Thus, for example, when Homœopathy first made its appearance at Milan, under the patronage of the Austrian Government, the subject, it was soon found, could not be discussed in all its bearings with perfect freedom. The whole business of journalism is fettered and cramped by restrictions and vexatious annoyances. Hence it is that scarcely any of the periodicals bear that stamp of originality and freedom of opinion, which constitute the main utility of such publications; and that their chief contents are mere compilations from the French, English, and German journals. As long as such a state of things lasts, we cannot look for that energy and devotedness in the cause of professional advancement which we find in the writers of France, Germany, and Great Britain. Surely medical science may fairly be regarded as a free and open field for unlimited boldness of speech and inquiry; but alas! it has always been found that tyranny is never satisfied until it has brought everything under its iron yoke."—*Bulletin of Medcal Science—Gazette Medicale.*

THE WESTERN JOURNAL.

NEW SERIES.—VOL. I.—NO. IV.

LOUISVILLE, APRIL 1, 1844.

MESMERISM.

We think it highly probable, that a few of our readers may feel disposed to quarrel with us for bestowing so much time, and so many pages of our Journal on mesmerism, which, by many, we know, is esteemed an exploded humbug, unworthy of any further investigation. In justification of our course, we must be permitted to say, that to many of the first minds of the age mesmerism does not so appear—that it has found warm advocates among the most intelligent men of every community where experiments have been made in it—that it has been thought worthy of investigation by many learned bodies in our own times, and was examined by a committee of the French Academy, in the last century, at the head of which was Franklin. A subject, said to present so many strange and wonderful phenomena, is assuredly entitled to the consideration of the philosopher. And as a physiological subject it has peculiar claims to the attention of medical men. If not examined by them, who will investigate it carefully, so as to separate all that is false in

it from what may be true? The report contained in our last number will appear tedious to most readers; but it presents a mass of testimony which was collected with great care, and which in the minds of the unprejudiced must go a good way towards settling one of the disputed points in mesmerism.

The article in the present number, by Professor Drake, is a commentary upon the facts set forth in the report. We need not bespeak for it the attentive perusal of our readers. No one will fail to read that, and we venture to say that no one will rise from the perusal of it without a strong conviction of the plausibility of the hypothesis advanced. If Dr. Drake has not explained the phenomena attending mesmeric somniloquism, he has offered a theory which strikes us as coming wonderfully near to a satisfactory solution. At all events, it will not be denied that he has produced a very able and interesting paper on the subject, and with it we dismiss mesmerism for the present. Y.

LUNATIC HOSPITALS.

We take a deep interest in the reports of these benevolent institutions. Their statistics are consolatory to suffering humanity—among the proudest trophies of the healing art. We have before us, at this time, three annual reports from lunatic asylums, of which we shall give a short account. The first we shall notice is

The Fifth Annual Report of the Ohio Lunatic Asylum, at Columbus. Extensive additions have been made to the buildings of this asylum, by which it will be capable of accommodating, when all are completed, about three hundred and forty-five patients, which, it is supposed, will be equal to the wants of the insane population of that state. "The number of patients," says the report, "who have been inmates of the institution since the 15th of November, 1842, is 207—males 105, females 102, all citizens of the State of Ohio. The number of patients remaining in the asylum at the close of last year was 142—75 males and 67 females. During the past year 65 patients have been admitted, viz: 32 males and 33 females. The number discharged in the past year was 59, viz: 30 males and 29 females. Of these 38 were discharged recovered, 7 improved, 10 stationary, and 4 by death. Two others are con-

valescent, and have a strong desire to return to their friends, but we think it most prudent for them to remain a few weeks longer. As a general remark, it is much the best plan for convalescents to remain until their bodily health is firmly established, and full proof is exhibited of their entire exemption from mental disease. The few instances in which recoveries seem to have been promoted, by a return of the patient to the endearments of home and friends, are but extremely rare and uncertain exceptions to a safe and substantial general rule. By reference to our summary remarks it will be seen that, of the recent cases discharged during the past year, 100 per cent. recovered. It is very seldom that every circumstance unites to favor a result of this kind."

Since the opening of the institution three hundred and fifty-four applications for admission into it have been refused for want of room; and the report supposes, that in Ohio alone there are at this time, between three and four hundred insane persons who need the protection and care of a public hospital. Happily, it seems to be the policy of that State "to make abundant provision for the reception of every insane citizen, whether male or female, rich or poor, curable or incurable." It is a humane and wise policy, deserving of all praise.

This report abounds in statistics of great interest. We regret that we cannot copy more extensively from it, and that our limits preclude us from any notice of the seven cases related in the appendix to the report. The author of the report, William M. Awl, M.D., superintendent of the institution, is entitled to great credit for the fulness with which he has reported all the facts that interest the medical philosopher.

The Annual Report of the Physician and Superintendent of the Eastern Asylum, at Williamsburg, Va. This report is for 1843, and we are indebted for it to John M. Galt, M.D., superintendent and physician. "The number of patients who have been inmates of the Eastern asylum since the first of January, is one hundred and thirty-five. Of these, eighty were males and fifty-five females. Six of the male patients and nine of the females were colored persons. The number of patients on the first of January, was ninety-three, viz: males fifty-seven, females thirty-six. During the year forty-two have been received: twenty-three of these were

males, and nineteen females. The number of the discharges is twelve, viz: nine males and three females; one male and one female now in the institution are convalescent. The number of the deaths is fourteen, viz: nine males and five females, or about ten and a third per cent. The number of patients at present is one hundred and nine, viz: males sixty-two, females forty-seven." From the 1st of July, 1841, to the 1st of July, 1843, or during the space of two years, 50 patients were received: of this number 24 have recovered, counting one case in the institution now convalescing. This gives a per centage of 48.51, which taken simply is very high; and under the adverse circumstances with which the institution has had to contend, must be considered still higher. We believe that there are few institutions exhibiting a higher per centage, under any thing like similar circumstances. The per centage of the Massachusetts State lunatic hospital at Worcester is 43.41: which institution, taken in all its characteristics, may be considered as the first in the world."

This report is drawn up with great care. The author feels a just and laudable pride in the management of the institution for which he is responsible, and may contemplate the fruits of his stewardship with high satisfaction. His report wears a studious and pholosophical aspect. His heart is evidently in the subject, and he has made himself master of it.

Eleventh Annual Report of the Trustees of the State Lunatic Hospital, at Worcester, Mass. We received a copy of this report a few days ago, and we opened it in the fullest conviction that we should find much in it to admire. "The noblest monument of the public charities of Massachusetts," as the report styles it, it is an institution which would do honor to any country in the world. "From the laying of the foundation-stone to this day," says the report, "Heaven seems to have directed the undertaking, and to have crowned with its mercies the entire work. Not to see it, we should be blind; not to acknowledge it, we should be most ungrateful." We subjoin the following summary:

"Eleven years have passed since this hospital was opened for the reception of patients; in that time there have been received one thousand and seven hundred and seventy-seven patients.

"Committed by the courts, 1311; committed by overseers of the poor and friends, 466; the number of discharges is 1522; the num-

ber of recoveries is 792; during the last year there have been in the hospital, different patients, 458; at the commencement of the year, 238; admitted during the year, 220; now remaining, 255; recovered, 116; died, 22; discharged improved, 32; discharged as harmless and incurable, 24; sent to house of correction, for want of room, by trustees, 2; discharged by the courts, as incurable and dangerous, 6; discharged by trustees' private board, incurable, for want of room, 1; average number of patients in the hospital for the year, 244 1-6.

"Of those who have recovered, ninety-four were cases of less duration than one year, and thirty-two of longer duration.

"Application has been made for one hundred and fifty-seven who were not received at the time, and forty-eight who have not been received at any time, for want of room."

A richly-merited compliment is paid by the trustees of the asylum to Dr. Woodward, the accomplished, humane, and indefatigable superintendent, whose gentleness, courtesy, skill, and energy have made the hospital, in their own language, "a model and a praise in our own and in foreign lands."

"All the American hospitals for the insane," says Dr. Woodward, "must be able to accommodate from *three* to *four thousand* patients. They must relieve a vast amount of suffering of patients and anxiety of friends. They are probably not surpassed for custodial care, or remedial treatment, by any institutions in the world."

Dr. Woodward, very justly, in our opinion, dissents entirely from the judgment of Jacobi, that the sexes should be kept in separate establishments, and be allowed no intercourse or communication with each other. He insists upon the judicious intercourse of the sexes, as being as favorable in its influence upon insane men and women, especially when convalescent, as it is upon individuals in health. He would have the insane treated as other people are, keeping out of sight as far as practicable their peculiarities, encouraging them to self-respect and rational conduct, and getting them into habits of order and accustomed channels of duty and employment. Concerning devotional exercises, his remark is, that "our confidence in the benefits which result from religious worship for the insane increases from year to year." The experience of the other superintendents is to the same purpose. Similar declarations are made in each of the foregoing reports. Y.

THE BURNING-WELLS OF KENAWHA.

The following account of a most curious phenomenon, although not strictly professional, will be read, we are quite sure, with interest. We are indebted for it to Mr. James Putney, of Virginia, lately a pupil in the Medical Institute of Louisville. Y.

The Kenawha salt-works of Virginia are confined to the banks of the river of that name, and extend eight or ten miles up and down the stream. These works have been, and are yet, the source of most of the domestic salt consumed in the west, and have been in active operation for more than thirty years. The salt-water by which this supply is afforded is obtained by sinking a well on the brink of the river, at the point of low-water-mark, perforating the solid rocks by a hole not more than two or three inches in diameter; and it is a singular fact, that the salt-water is not to be obtained at any other point—not half a mile from the brink of the river. By a very tedious process, the rock has been penetrated to the depth of from six to twelve hundred feet, and in a few instances to even a greater depth. This operation was formerly accomplished by hand, or by horse-power, but is now done by means of steam. In boring to this immense depth, nothing is met with but the solid sand-stone rock, with the exception of two or three strata of bituminous coal. These strata are from a few inches to six feet in thickness, and are found only in the first five hundred feet. Fissures are sometimes met with in the rock which are a few inches in depth, and which contain water, or gas, sometimes both. As soon as the auger reaches these cavities the gas issues with great force, and is quickly exhausted. When a good fountain of salt-water is attained by the auger, it rises nearly to the level of the river, and is then pumped out, and forced into the reservoir for use.

To all who are acquainted with the history of these works it is known, that there exists in this county a remarkable phenomenon, which has received the common appellation of the *Burning Springs*. These are nothing more than excavations in the earth, capable of containing sixty or eighty gallons, and which, in a wet season, are filled with water. The gas rising through the water gives it the appearance of a great boiling caldron, which, if a torch be applied, instantly takes fire, and burns with a beautiful lambent flame. This has excited great fear and astonishment among the ignorant and su-

perstitious, from the circumstance of the water's boiling, and apparently burning on its surface, and yet remaining cold. But a more recent exhibition of this phenomenon is to be seen in the *Gas-wells*, a short description of which I will now proceed to give.

A gentleman in boring his well, after having penetrated about one thousand feet, was surprised at an immense rush of gas, the carburetted hydrogen, mixed with strong salt-water. The gas was expelled with such force that it threw the water at least a hundred feet into the air, forming a most beautiful *jet d'eau*, and covering the earth with its white briny foam. The gas and water thus continued to be thrown out for many weeks, when the owner of the well began to think of turning it to some useful purpose. He proceeded to adjust suitable pipes to the well, and conveyed the gas to the reservoir on the top of the bank, the gas forcing the water before it with great power. By an apparatus fixed for the purpose, the water was separated from the gas, and both were conveyed to the furnace—the water into the pans, and the gas to the fire, to be applied to the bottoms of the pans. The whole furnace was thus filled with flame by which it was found that a saving of two-thirds of the fuel was effected. It was estimated that the quantity of gas emitted in twenty-four hours was sufficient to evaporate sixteen hundred gallons of water. The pipes in which it was conveyed to the furnace were five inches in diameter, and yet such was the force with which it was expelled, that a man was not capable of holding his hand upon the mouth of one of the pipes. A constant stream continues to issue from the well, its velocity, every few seconds, being much accelerated, in which it very much resembles the escape of steam from the engine of one of our largest steamboats, not, however, with the same regularity, nor with such distinct intermissions. The process of manufacturing salt with this gas is exceedingly interesting. The gas first expels the salt-water from the bottom of the well, and forces it into the reservoir. Then being ignited beneath the furnace, it converts the salt-water into brine. The brine is next conveyed into a wooden vat, and is then converted into salt, by the agency of the same steam which was generated in converting the water into brine.

The eruption of the gas at this point occurred about two years since, and it has continued to be emitted with the same copiousness

ever since. A few months after its first expulsion another well was bored at a distance from it of about a hundred yards with similar results, the quantity of gas discharged being fully equal to that of the first. Since that time six other wells have afforded the same phenomenon, and one of these in particular deserves notice on account of the vast quantity of the gas and water thrown out. This is about a mile distant from the first. This well, it is computed, will supply salt-water in sufficient quantities to make a thousand bushels of salt in twenty-four hours, and enough gas to convert forty or fifty thousand gallons of water into steam. In some of these wells the salt-water is, unfortunately, not very strong, and it is found a difficult matter to bore them to a greater depth.

An occurrence lately took place in one of these wells worthy of notice. After having emitted the gas for some time, the escape suddenly ceased, and in the belief that some obstruction was offered to its egress, the workmen were ordered to sink the augers and remove the obstacle. Suddenly a trembling of the earth was observed for many yards around the well, followed by a violent explosion, and a forcible expulsion of the augers, and a flame of fire—which presented a beautiful, and even sublime spectacle. The gas continued to burn until it was extinguished by the violence of the winds. Ever since, there has been a free emission of the gas. How long it will last, of course, cannot be determined; there seems to be no diminution in quantity since its first appearance.

The *burning* springs above referred to, have been bubbling up ever since the first white man set his foot upon this strange soil, without any diminution of energy. The amount expelled from them is no trifle—probably enough to furnish this city with lights. The gas which issues from them, as well as from the eight wells, is impure, though it burns with a beautiful flame. Before, as well as after, it is ignited, it exhales a most disagreeable sulphurous odour. J. P.

Louisville, February, 1844.

ANATOMICAL ATLAS.

Through Mr. James Maxwell, jr., we have received from the publishers, Messrs. Lea & Blanchard, part second of this beauti-

ful work, containing ninety-one figures illustrative of the dermoid and muscular systems. The execution of this, as of the preceding number, is very admirable, and must commend the Atlas to the profession as one of the first works of its class. It furnishes all the information that drawings can afford, of the structure of the human system. No student, who is trying to acquire a knowledge of anatomy without the aid of subjects, ought to be without it; and the practitioner whose anatomical reminiscences are beginning to fade will find it a valuable remembrancer. Y.

BOOKS RECEIVED.

We have received from the publishers, through our friend, Mr. Jas. Maxwell, Jr., several valuable works, which we have not been able to notice in the present number, but which shall be attended to anon. One of these is a volume, which we have read with great pleasure, from the press of Messrs. Lea & Blanchard, by Professor Chapman, on *the diseases of the Thoracic and Abdominal Viscera*. A new edition of Dunglisson's learned work on Physiology, from the same press, was also among them. Another was *Curling on the Testis*, of which a full notice will be prepared for an early number; and a fourth was Goddard's splendid volume *on the Teeth*, for both of which we are indebted to Messrs. Carey & Hart. The mechanical execution of these works shows a rapidly improving state of the art of printing in this country. We shall take the earliest opportunity to speak of their literary and professional merits.

THE

WESTERN JOURNAL

OF

MEDICINE AND SURGERY.

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ART. I.—*A Case of Hepatic Abscess, which discharged pus at three points.* By ANDREW R. KILPATRICK, M. D., of Woodville, Miss.

In looking over the medical literature of the day one is struck by the number of cases of strange or wonderful disease—of recovery from wounds apparently immedicable, or diseases of the most hopeless character, and a doubt may sometimes arise whether such things can be so. But the physician of extensive experience or reading has been taught that, in our profession,

"Truth is strange,—stranger than fiction."

The following case, if I am not mistaken, will be considered remarkable. If there is another on record precisely like it, I have not been able to find the history of it, and I have

looked diligently through all the medical books within my reach. It occurred in the Grand Prairie, St. Landry Parish, Louisiana, in the practice of Dr. James M. Murph, of Washington, near Opelousas.

Stephen Bundick, aged 33 years, large and well formed, a blacksmith by trade, health generally good, but occasionally interrupted by attacks of intermittent fever, and pain in the right hypochondrium, which latter symptom was increased by hard labor. On the 23d of February, 1843, he was attacked by severe pain in the region of the liver, which yielded to venesection and cathartic medicine. The pain returned next day with its former violence; the same remedial agents were again employed, but the bleeding was not carried to a sufficient extent, as the pain was only slightly moderated, and continued, in spite of free catharsis, up to the morning of the 3d of March, when the pain suddenly diminished, leaving a dull, heavy pain, as he styled it. This was regarded as a favorable crisis, and he and his family looked with hope to a speedy restoration of health. The scene, however, soon changed; his extremities became cold, and a clammy perspiration bedewed the body. By employing stimulants and rubefacients a slight degree of warmth was restored, but he still continued to sink, becoming partially comatose, with difficult, laborious respiration; and in the afternoon what was regarded as the ominous death-rattle added to the other symptoms its unwelcome sound. It was at this late stage of the case that Dr. Murph was called in. The hands and feet of the patient were very cold; eyes, though dull, still indicated consciousness and apprehension, as he gazed in his physician's countenance. Pulse small, soft, and thread-like, so much so as to be scarcely perceptible; tongue moist, clean at the tip and edges, brown and fissured in the centre and at the base; dull pain in the right side; slight tenderness in the epigastrium; spleen and liver both considerably enlarged; intestines had been emptied by free purgation. Stimulants were now given freely, and frictions and mustard sinapisms applied to the extremities, followed by vesicatories. Scarified cups to

right side of thorax, after which ung. tart. ant. was rubbed on the scarified places, and a large vesicatory was applied to right hypochondrium. He was revived by the stimulants, and by turning him on the right side the mucus was dislodged from the trachea, and his respiration became more easy. Left powders of submur. hydrarg., sulph. quinine and gum camphor, to be administered every three hours and assisted, if necessary, by enemata.

March 4th. Pulse fuller; skin more natural in warmth and color; blisters drew well; expectoration more easy and free; medicine acted rather too much. Continued same powders with the addition of morphia.

5th, 6th, and 7th. Visited him regularly, and his amendment was progressive and marked. Pustules from ung. tart. ant.; blistered surfaces secreting and bowels soluble; appetite returning. There is still a disinclination to lying on the left side, and occasionlly an obtuse pain in right side. Giving general directions, visits were discontinued. Saw him again on the 27th March, at which time he was expectorating pus freely; stated that he had discharged an immense quantity of purulent matter by vomiting. Troubled with copious night-sweats, preceded by slight febrile exacerbation. In three weeks more he was again *working at his trade.* The disease, however, was not eradicated.

On the 27th May medical assistance was again demanded, when he was found in a worse condition than before; very feeble and emaciated, with the liver so much enlarged as to fill nearly two-thirds of the abdomen, obstructing, materially, the operation of the medicine. There was a painful tumour above the umbilicus, and one below, to the right side, or in the right lumbar region, both of which indicated the incipient formation of abscesses. In spite of a rigid antiphlogistic treatment and every effort to arrest the formation of pus, it was evident on the 1st of June, three days after, that this had taken place. Next day upon examining the alvine dejections, it was discovered that they consisted almost exclusively of green pus. The points of the tumours were sunk,

flaccid and without any fluctuation. In a few days the tumors, or abscesses were again full and doughy. At the solicitation of the family, and by the advice of Dr. Tatman, and my friend, Dr. Geo. Hill, of Opelousas, an opening was made through the abdominal parietes and a quantity of fœtid gas rushed out, allowing the abdomen to sink down into a flaccid condition. In a few days pus was discharged at the incision in considerable quantities; the orifice had no disposition to close, although the lips were brought in apposition by adhesive strips. Although he discharged pus by expectoration and per anum, yet this was the greatest outlet, and in the course of two weeks the matter ceased entirely to pass by either of the openings, notwithstanding his body was placed in several different postures. The quantity of pus at this time was small; the opening was healthy, and there was such a favorable general condition of the patient, that hopes were entertained of a final recovery. At this stage of the case his attendant, Dr. Murph, was taken very ill, and saw him no more.

From exposure, imprudence and neglect, as I am credibly informed by Dr. Tatman, and also the too free use of mercury, after the illness of his physician, a deplorable condition was brought on. Severe salivation, gangrene of the external orifice, general prostration, and wreck of the whole system supervened, and he died about the last of July, 1843, in a most loathsome condition. Dr. T. was called to see him, but it was too late—he was moribund when he saw him. I am extremely sorry to say, that owing to the peculiarly unpleasant situation of the cadaver, and the great press of other cases, there was not a post-mortem examination. And, in fact, in this particular the physicians of the South and West are culpably negligent in prosecuting these examinations. I hope, however, that a change is taking place, both in the medical gentlemen and the community, as regards autopsies.

On reviewing this remarkable case, there are many thoughts suggested to the mind, and many points of inquiry. Is it likely that he would have recovered from the first severe at-

tack, if medical assistance had not been employed? My own impression is that he would not. The remedies employed to revive him, and the great mental adjuvant, of faith in his physician, brought him through.

It is singular that an inflammation of the liver should have occurred at that season of the year, and more especially of last year, when the winter was so very cold and protracted. Is it likely that there was a slow, chronic lesion transpiring in that organ the cause of the pain in the right hypochondrium which was increased by hard labor?

I am of opinion that there were, in truth, *four* different points of exit to the pus; for on the 27th March he was found expectorating pus, and had vomited a great quantity; here then were two. Subsequently he discharged green pus per anum, and then the external opening was made. It may be contended that the pus which was discharged by vomiting and per anum entered the alimentary canal at the same point. If it entered the stomach or duodenum, it could scarcely have passed the entire length of the intestinal tube in such an unmixed and pure condition as it was found to be; and if it entered at any point below the duodenum, could it have been discharged by emesis? My opinion is, that it was discharged into the stomach, and also into the colon.

A case somewhat similar, except that it was more rapid in its progress, is to be found in Dr. James Johnson's treatise on the diseases of Tropical Climates. On post-obit search, he says, "the liver was found one entire mass of suppuration and disease. I passed my hand from it into the stomach, to which it adhered, and through which an abscess had burst. Another adhesion had formed between the liver and the transverse arch of the colon, through which was an exit also for the matter."

A similar case, with a better result, occurred in the practice of Dr. Colledge, at Macao, China, recorded in Dr. Bell's Eclectic Journal of Medicine, for January, 1839. He first discharged the pus through the colon downwards, and afterwards through the lungs. He finally recovered.

I am inclined to think that Mr. Bundick would have recovered, if proper professional aid had been rendered after his first medical attendant was taken sick. The case should teach us never to despair, but under circumstances the most unpromising to ply our measures to the last. Few cases can occur where less is promised than was afforded by this at one time, and yet the recovery was so far completed, that the patient was able to resume his laborious trade. It is greatly to be regretted that he did not receive in his relapse the same judicious treatment which attended his first illness. The omission of the autopsy is one which I also very much regret.

March, 1844.

ART. II.—*A Case of Tubercular Disease.* By W. W. GOODWIN, M.D., of Utica, Indiana.

November 24, 1843, I was called to visit Mrs. B., æt. about 30 years, of scrofulous diathesis, who had been attacked some ten months previously with slight diarrhœa, attended with some cough, and pain in the chest, from all of which symptoms she at first had occasional respites, continuing for some weeks. After remaining some time in the above condition, she became pregnant with her fifth child, when all the pectoral symptoms grew much less conspicuous, while the diarrhœa gradually increased in the frequency of its attacks until I saw her. At this time she was laboring under a regular tertian ague. She was much emaciated, confined to her bed, pulse rather tense, and 130 in the minute; tongue furred in the centre, with moist, clean edges and tip. Tenderness to pressure in epigastrium and region of the colon. The sound elicited by percussion over the inferior lobe of the left lung very slightly cavernous—that from the superior lobe rather dull. Right lung rather dull throughout, but the departure from a healthy sound was not great. As the disease advanced, the sound on percussion underwent some modifi-

cation, becoming more healthy, until her accouchement took place. Her labour was somewhat tedious, but in other respects was not unnatural. As is usual in such cases, after this event, she grew worse, her cough becoming very troublesome, attended with severe pain in the left side, which soon extended to the right also. Purulent expectoration came on, and was followed in a few days by considerable hemoptysis, after which she declined rapidly. Pain in the chest, stomach and bowels increased to an extent that was excruciating; sweating and diarrhœa became profuse; pulse small, and from 130 to 150. Sweating ceased a few days before death. The sound on percussion over the inferior lobe of the left lung very hollow—over other parts rather dull.

An autopsy was made about five hours after the death of the patient.

Chest.—Left lung very much reduced in volume, with several considerable cavities in its inferior lobe. The balance a complete mass of tubercles in different degrees of maturation—extensive adhesions of the superior posterior surface. Right lung as extensively diseased as the left, but the tubercles not so far advanced; the adhesions not quite so great. Heart and pericardium normal.

Abdomen.—Liver gorged with dark blood; gall-bladder containing dark viscid bile. Spleen, pancreas, and kidneys natural. Stomach had a small ulcer near its cardiac orifice; duodenum healthy; other small intestines ulcerated in many places, adhering strongly to the abdominal parietes. Colon ulcerated in several places, and very much thickened and contracted in volume, particularly the ascending portion of the bowel. Mesentery softened, and broken down in places; glands greatly enlarged.

No examination was made of other parts, the character of the disease having been fully revealed by what was inspected. I may remark that the treatment, which would not be interesting in detail, was directed to the relief of symptoms, the case being one in which, from the beginning, but slender hope of recovery was afforded.

March 15, 1844.

ART. III.—*A Case of Stricture of the Urethra, with effusion of urine into the Scrotum, sloughing and loss of a Testis; and a Case of Epilepsy in which trephining was resorted to.* By WILLIAM M. YANDELL, M.D., of Benton, Miss.

A negro man, aged about 50 years, had labored under a stricture of the urethra for fifteen years, during which time he had been attended by several physicians, who resorted to the use of the bougie without affording him relief. The stricture continued to increase, and at length the obstruction became so great, that the urine escaped by stillicidium. During last autumn he had an attack of bilious remittent fever, and while laboring under this disease the urine made its way into the scrotum. When I was called to see him the scrotum had become immensely distended, being in bulk as large as the head of a six year old boy. It was also gangrenous to a considerable extent, and on examination it was discovered that one of the testes was affected with gangrene also. His general health had suffered seriously, and his condition was altogether deplorable. The urine having been drawn off by a free incision, the parts were repeatedly washed with a solution of the chloride of soda, and soothing poultices were applied. The testis, which showed indisputable marks of gangrene, was excised after a day or two, and the patient put upon the iodide of iron. He improved rapidly, and in a short time was going about. For the stricture, which was still remaining, unalleviated, I commenced the strenuous use of the bougie, beginning with the smallest size metallic one, and have just had the satisfaction of dismissing the patient cured.

I discharged, to-day, a case of still greater interest to me. A young man, 21 years of age, from the fall of the limb of a tree, which fractured the right parietal bone, became subject to epileptic fits, and placed himself under my care about a month since. The depression in the bone extended in length to an inch and a half, and was about an inch broad. The accident occurred seven years ago. The convulsions ensued soon after, and have followed him ever since, his mind, in

the mean time, having become impaired, as is usual in that disease. The case appeared to me to be one of those in which a surgical operation afforded the only chance of recovery. I applied the trephine, in presence of my brother, Dr. Burton Yandell, four weeks ago, by which I removed, at first, a portion of the depressed bone. The inner surface of the bone was smooth and healthy, as was also the dura mater —pulsation of the brain scarcely perceptible. A probe being passed under the depressed bone which remained, two ounces of bloody serum escaped, but I was not able to discover any roughness of the bone, or any spiculæ growing from its surface upon the dura mater. I determined, however, to re-apply the trephine, and remove the remainder of the depressed cranium, so as to see the source of the fluid, and the condition of the dura mater at that point, as well as to relieve the brain from pressure. I proceeded cautiously, raising the bone with the elevator before the incision had been made complete all around. On lifting out the bone, a gush of blood, in a stream larger than a goose-quill, followed, and seemed to threaten the life of the patient, but was promptly restrained by pressure. It was soon discovered that complete paralysis of the left leg and arm had supervened, in consequence, perhaps, of the pressure used to control the hemorrhage. This symptom, however, is giving way under the use of friction and rubefacients, and I have no doubt will entirely disappear when the parts return to their natural state. His general health has become quite good; he has had no return of the convulsions up to this time, and his mind appears to be gaining in vigor. It is yet too early to predict what will be the final issue of the case, but I may remark that no untoward symptom now exists, and the promise is, that he will remain exempt from his distressing malady.

Benton, March 20, 1844.

ART. IV.—*Typhus Abdominalis; Ganglionic Typhus; Nervous Fever.* From Professor SCHOENLEIN's Lectures, published by some of his disciples. Translated by F. Roëlker, M.D., of Cincinnati.

The seat of this disease is in the abdominal organs, in the mucous membrane of the intestinal canal, and in the abdominal nervous system.

We discriminate three stages: 1. The stage of irritation; 2. The nervous, and 3. The critical stage.

A stadium prodromarum often precedes, and these premonitory symptoms are sometimes somewhat characteristic.—Weariness and heaviness in the limbs; sleep restless, not refreshing, interrupted with frightful dreams; loss of appetite; increased thirst, and frequent stools, mostly at night and seldom during the day. These symptoms often mislead physicians to the administration of irritating remedies, which only serve to hasten the development of the disease.

1. The stage of irritation. The beginning of the typhus diseased process may be dated from the time when the patient perceived the last chill, which was followed by permanent heat. We discriminate in this stage, (*a*) symptoms derived from the nervous system; (*b*) from the mucous membranes; (*c*) and from fever present.

(*a.*) Symptoms of the nervous system. The great weariness and atony, the leaden heaviness in the limbs and the dulness of the head increase. There is a deep sensation of sickness in the sensus communis, a reeling and staggering in walking; the eyes have a peculiarly faint and dull aspect, seldom real pain in the frontal and occipital region, but frequently starting up in sleep, rarely, however, delirium in this period.

(*b.*) Symptoms of the mucous membranes. The patients have a peculiar countenance, a gastric physiognomy, gastric color; the tongue is coated, whitish, slimy, and often bilious, yellowish, and filthy. Bitter, slimy taste, nausea, frequently amounts to actual vomiting. More or less pain in ileo-cæcal

region, which, when it does not show itself immediately, often does appear after some motion. Constipation until the fourth day, then those characteristic stools occur, which consist of two parts, a superstanding liquid, as common intestinal mucus, colored yellow or greenish by a peculiar pigment; and of a subter-standing mass, which is flaky, and consists of albumen (which becomes less abundant in the blood), and of flocculi of a yellow color. The microscopical examination shows alkaline crystals, which are of an uncommon size and become visible at a twenty-fold magnification.

(*c.*) Symptoms of the fever. The symptoms of the general reaction may be of a sthenic, erethic, or of a torpid character. In that of the sthenic character there is violent chill, followed by heat, with calor mordax of the skin. The pulse is not particularly accelerated, but full and hard, from 80 to 90 beats in a minute. The tongue is covered with a white fur; thirst great; appetite bad. The fever is, however, more frequently of an erethic character. Shaking chill followed by permanent heat; skin rigid and dry; pulse accelerated, vigorous, 100 to 120 beats. The urine inconstant, often quite pale, mostly, however, dark-red and brownish. All these symptoms show a definite type of distinct exacerbations and remissions, the latter in the morning, the former in the evening. In the first stage the fever is seldom of a torpid character, in which the pulse is small and frequent, 110 to 120 beats, fluttering and easily compressible; subsultus tendinum, picking of the bed-clothes, &c.

Complications.—In this stage complications sometimes appear, especially violent affections of the brain, caused by strong congestions of it; and in this case violent furibund delirium takes place, commonly between the third and fourth day. The face is red, glowing hot; the eyes injected, protruded; the pulse full, hard, tense, 110 to 120 beats; tongue dry; thirst violent; carotids strongly pulsating; urine red. Encephalitis might be mistaken for it, which however is prevented by the characteristic diarrhœa, and the pains in the cæcum. Pneumonic symptoms often appear, especially in young, vigorous men, and at certain seasons. Sometimes op-

pression of the chest is felt, at other times a stinging pain; difficult respiration; cough; expectoration of mucus, which is sometimes streaked with blood; at some places dull sound upon percussion; and dry rhonchus, upon auscultation is heard.

The duration of this stage is seven days in its regular course, and in this case critical symptoms appear on the seventh or eighth day, which, however, disappear again; these commonly are, a moist skin, turbid urine, and epistaxis. Yet commonly on the evening of the eighth day, violent symptoms appear again, and the patient passes on to the second stage.

2. *The Nervous Stage.* Here we discriminate also: (*a.*) Symptoms of the nervous system; (*b.*) Of the mucous membrane; and (*c.*) Of the fever.

(*a.*) Nervous Symptoms. There is muscitating delirium from the beginning, which becomes more continued and eventually permanent. The susceptibility to external influences becomes gradually weaker; difficulty of hearing, and often deafness takes place. External irritations of the skin remain often a long time without effect. The patients lie motionless upon their back and mutter low to themselves; no loud talking is indulged in. The muscular strength is so much weakened, that they have constantly a tendency to slide down to the foot of the bed. The countenance altered, becomes stupid; the eye is dull, and without lustre. Also paralytical symptoms sometimes appear, as partial paralysis of the intestines and bladder; hence either involuntary evacuations of the fæces takes place, or torpor of the bowels exists; there is involuntary discharge of the urine, or retention of it, and as a consequence expansion of the bladder; and generally there is subsultus tendinum and picking of the bed-clothes; the patient constantly endeavors to remove things from his bed, which are not there.

(*b.*) Symptoms of the mucous membranes. The patient's tongue becomes dry towards evening; the base and superior surface are first affected,—the margins still remaining moist, but eventually the whole tongue becomes dry. It seldom remains clean, but frequently is covered with a thick, ropy.

pitch-like slime. A similar coat is found on the teeth and mucous membrane of the nose, which always regenerates itself anew, as often as it may be removed. The abdomen becomes tympanitic, and the pains in the cæcum more intense, the stools copious, from ten to twelve within twenty-four hours, the most of which occur during the night; in the daytime they are moderate. The evacuations have the same quality as in the second division of the first seven days' period. Towards the eleventh or twelfth day, especially in pneumonic complications, cough developes itself, which soon becomes moist and rattling, yet is connected with little or no expectoration.

(*c.*) Febrile symptoms. The skin is burning hot, and either dry and husky, or becoming moist and dissolving in colliquative sweats, with a disagreeable odor. Ecchymoses frequently appear of herpes-like blots (false petechiæ), and of dark violet color, and especially are seen on the nates and back. Striped ecchymoses (vibices) are very bad symptoms, as they very soon ulcerate and are very apt to extend in width and depth. The pulse is small, thread-like, compressible, and empty; beats from 130 to 140 in a minute. The urine is muddy, increases in specific gravity, and reacts sour; the fæces, however, are of an alkaline nature, and thus a constant contrast shows itself between the secretions of the kidneys and those of the intestines.

The febrile symptoms commonly have a definite type of distinct exacerbations and remissions, these in the morning, those in the evening. In rare cases two exacerbations and remissions take place in a period of twenty-four hours, one remission being at noon, the other at midnight. Comparing however, the symptoms of several days together, an approximation to the tertian remittent type cannot be mistaken, for the observation presses itself upon us, that the intensity of the diseased symptoms always corresponds every other day, especially in typhus which arises from intermittents. In the second half of this second period, especially on the fourteenth

day (sometimes earlier) critical symptoms appear—changes in the urine, with moisture of the skin; these symptoms are favorable.

Complications—with inflammation of the liver: typhus icterodes: rare in Germany, more frequent in southern Europe: The right hypochondrium becomes painful, swollen, and tense; jaundice developes itself.

3. *The Stage of Crisis.*—1. General crisis; the skin becomes moist, strong secretions appear, at first commonly in the evening only, but, by and by, the crisis continues longer, until the skin becomes continually soft and moist. If, however, the perspiration is to be a critical one, the pulse must become more quiet and the tongue moist, at least during its duration. The urine becomes clearer, and is discharged in greater quantity, sediments are seldom found in it.

2. Topical crisis. Instead of the former delirium, a quiet sleep ensues, after which the patients return again to consciousness as if awaking out of a long dream. The tongue becomes moist and the sooty coat of the teeth and of the mucous membrane of the nose begins to loosen itself. The cough becomes easy and the patients expectorate a phlegm like sputa cocta. The abdomen is soft, and the pains in the cæcum have disappeared. The exhausting diarrhœa subsides, and a constipation of two or three days' duration takes place. Although this favorable crisis appears, more or less violent disorders yet remain, depending upon ulcers present in the intestines, which mostly begin to heal in ten or fourteen days, but sometimes are protracted to the seventieth or eightieth day. Although convalescence is going on, the patients recover but slowly, and the following momenta are worth attention: 1st. The patients have an insatiable appetite, and hence are prone to eat too much, which acts very injuriously upon the healing of ulcers in the intestines. 2d. The sexual instinct awakens in a high degree; so as to produce frequent pollutions, nay often satyriasis.

Varieties.—1. As in measles, scarlet fever, &c., so we find here sometimes, though seldom, an abortive form. All symp-

toms of developing typhus are present, but on the fourth or seventh day, violent crisis through the skin or urine ensues, and thus the topical symptoms suddenly disappear. It would be desirable to be always able to produce this favorable termination.

2. Typhus abdominalis putridus—that is, abdominal typhus with symptoms of violent decomposition in the humors. Hæmorrhages of offensive decomposed blood ensue from the nose and rectum, hæmorrhage under the skin, vibices, ecchymosis, petechiæ. The urine is peculiarly alienated, more brown, putrifies sooner, and developes ammonia, or it shows decomposed blood, which appears as a red sediment. It has been tried to make another species out of this form, which however is improper, as a series of middle forms can be pointed out between simple abdominal typhus and putrid typhus.

3. Febris maligna sine febre. This may easily mislead the physician. The patients show only in the evening, between 9 and 10 o'clock, increased turgesence of the skin and excitement in the pulse; after midnight, these symptoms decrease again; and in the morning the skin is cool—nay, the extremities are very often completely cold, the pulse scarcely perceptible, and only towards midnight some vascular erethism appears. However, the topical symptoms of typhus are present. This condition, however, lasts but a certain time, and death mostly follows it; fever and delirium appear about thirty-six or forty-eight hours before its occurrence.

Duration of the Disease—Is in its regular course fourteen days. The crisis is between the fourteenth and fifteenth day, seldom on the ninth or eleventh, and if this is the case, mostly with fatal termination. The end is commonly also lethal when the crisis is delayed until the nineteenth or twenty-first day.

Termination.—1. *In perfect recovery*, distinct febrile crisis, which commonly holds the seven days' period.

a. General febrile crisis through skin and urine.

b. Topical crisis: uninterrupted sleep, expectoration of sputa cocta, and in typhus icterodes within twenty-four hours

two or three black stools, of soft consistence and bad odor, which, however, makes the patient feel much easier.

Besides the increased appetite and sexual instinct, the patients often suffer in their convalescence slight difficulty of hearing, with ringing and humming in the ears. These symptoms are to be watched closely, for inflammation and suppuration of the internal ear are very apt to take place.

2. *In partial recovery.*—Various disorders remain. 1. Decubitus; it is formed from ecchymosis, and by no means from gangrene of the parts. It is often very extensive, so that the sacrum appears as if laid bare. Gangrene of external parts supervenes, as of the nose, the ears, or the big toe. When these parts become blue and livid, and lose their sensibility, gangrenous destruction is at hand. 2. Gangrenous furuncles, which often appear on the inner surface of the thigh, rapidly increase, and, upon lancing, secrete an ichorous liquid. 3. A certain kind of pseudo-erysipelas, one of the worst secondary disorders, which developes itself rapidly and as fast disappears again, upon which violent delirium, stupor, &c., ensue. 4. Parotitis: Violent humming and ringing in the ears, connected with a stinging pain in the neck along the course of the nervus vagus; the neck is very tender upon pressure, and the patient separates the jaws only with pain. A small, very painful tumor soon appears, which is at first movable, and often grows rapidly. Under improper treatment, these parotid swellings disappear, after which death commonly ensues. They never resolve without medical means; suppuration takes place, which by colliquation may bring on hectic phthisis, for the abscess grows rapidly downwards, and the carotid often in four days lies denuded at the bottom of it. 5. Suppuration in the internal ear: The humming and ringing of the ears are followed by a violent stinging pain in them—accompanied by vertigo, deafness, and under the symptoms of paralysis of the brain, death may take place. 6. Intestinal phthisis, when the ulcers in the mucous membrane of the intestines do not heal. It runs its course rapidly, and is accompanied by febris nervosa hectica. 7. Perforation of the intestine: It always

takes place in the later periods only, mostly from the twenty-eighth to the sixty-fifth day, in the lower free part of the small intestine, but, according to Chomel, also in the free large intestine. The openings are always found at the bottom of an ulcer, where the muscular and serous coats are perforated. Their diagnosis is easy: sudden and extremely vehement pain in the abdomen, which swells, and becomes hard and tense; vomiting of massa herbacea; and facies hippocratica, and in consequence of the perforation and protrusion of the intestinal contents, inflammation of the peritoneum. 8. Secondary disorders in the lungs, either a simple blennorrhœa of the respiratory mucous membrane, or an inflammation in the upper lobes, or formation of tubercles. 9. Hydrops—one of the rarest secondary disorders.

3. In another disease. Intermittent fever is the only one which can develope itself, and this is but rare, and in those countries only where intermittent is endemic.

4. In death. It perhaps never ensues in the first period, but on the eleventh, fifteenth, seventeenth, or twenty-first days. The critical days may also be named fatal days. The uneven days are especially those which carry off the most patients. Death itself ensues in various ways: (*a*) in the height of the disease, by paralysis of the abdominal nervous system. The symptoms are, abdomen swelled, meteoristically tense, a peculiar pain produced by pressure upon the cæcum. The stools (from twelve to sixteen in twenty-four hours) often pass involuntarily, are thin, mixed with dissolved offensive blood. The countenance alters more and more, is covered with cold sweat, while the body feels constantly hot, the pulse is small, thread-like, worm-like, (puls. vermin.); singultus, subsultus tendinum come on. (*b.*) Through secondary disease. (*c.*) Parotitis developes itself and passes into destructive suppuration. (*d.*) In other cases hectic fever may come on. (*e.*) Excrescences form upon the intestinal mucous membrane; after the separation of the scab, a part of the mucous membrane is lost, which is not restored, but ulceration takes place and the patients die of abdominal phthisis. The symptoms in this case are the follow-

ing: the diarrhœa continues, the peculiarly purulent masses appear in it, the patients have a permanent pain on the lower part of the small intestine, and the fever becomes hectic (violent heat towards evening, exhausting colliquative sweat until morning, an irritated frequent pulse). Where these symptoms appear, it generally terminates in fourteen days.

Etiology.—The disease is most frequent in the blooming years between the 18th and 26th; before puberty, and after the above mentioned period, it is rare. In old persons it is never found. Sex, also, seems to influence its frequency; for it is more frequent with women, especially young girls at the age of puberty, than with men. The proportion is from two to three. A peculiar distemper of the abdominal nervous system increases the susceptibility to the disease. Individuals, laboring under hysteria, epilepsy, or distemper of the ganglionic system from worms, are principally the subjects of attack.

Cause.—External momenta.—Exhaustion of the vital power through excessive exertion of the muscular action; also from the genital system through onanism and excess in coitus; through continuing diarrhœas, caused perhaps by misuse of evacuating remedies; through depressing passions; too long continued use of narcotics, (especially of cherry-laurel water and belladonna; as these remedies, besides their depressing influence upon the nervous system, at the same time induce decomposition of the blood.) If, under such circumstances, a general outbreak of the disease is to take place, a peculiar atmospheric constitution is required. Rapid changes in temperature, sudden transitions of weather, the decomposition of air impregnated with effluences from animal and vegetable matter. The predisposition to the disease increases under such circumstances to the utmost, if an individual, besides the influence of the nervous disease, at the same time is exposed to debilitating influences, such as bad nutriment; namely, the use of salted, half putrid meat. The disease may become contagious. The media of contagion are the exhalations of the patients; namely, the alvine evacuations, those from the

skin, and perhaps the breath; hence this disease is frequently contracted by sleeping with or coming in contact with a person affected. On the other hand, however, a predisposition is always requisite.

Anatomical Facts.—1. Changes in the ganglionic system: If the patients die while the disease is at its acme, between the seventh and fourteenth days, the ganglia of the abdominal nervous system, especially the plexus solaris, are found to be swollen, enlarged, considerably engorged with blood, and consequently very much reddened. The redness, however, is not the florid one of inflammations, but it merges from purple red into livid; the same changes take place in the nerves, which connect the single ganglia. When death takes place somewhat later, the ganglia are likewise swollen, but their texture is harder, often of a fibro-cartilaginous nature, their color is whiter than in their healthy state. These changes have hitherto been overlooked. 2. Changes upon the abdominal mucous membranes: These have caused the assertion that abdominal typhus is identical with inflammation of the intestines; (namely, inflammation of the glands of Peyer); that this assertion, however, is invalid, is proved by merely observing the course of both diseases. In abdominal typhus, no symptom of inflammation is found until the fourth day of the disease; on the fourth day, symptoms appear that are totally absent in inflammation, which continue until the seventh day, at which time the nervous stage has developed itself. As regards the diarrhœa of abdominal typhus, we see that it is violent with one individual, while it is less so with another, and that, indeed, the intensity of the disease is in direct proportion to its violence. These changes in the intestinal function have of course a distinct diseased process for their foundation, not, however, the inflammatory, but an exanthematic one. The sectio cadaveris puts this fact beyond doubt. The exanthem has its appointed place in the lower half of the small intestine; does not easily pass over the valve of the colon into the cæcum, neither, however, passes upwards bevond the second third of the small intestine, and it is more

diffused, the nearer it comes to the lower end of the intestine. In its simple course it forms at first a semi-globular nodule, which, later, on its top, gets a plate, or navel-like impression. This nodule is, in the beginning, covered with the intestinal mucous membrane, here after sometime an eschar is formed of grayish color merging into black, (as eschars are formed in carbuncle and anthrax), around which the margin of the nodule is elevated like a wall. Subsequently the eschar separates, which generally takes place from the tenth to the fourteenth day, and an ulcer is formed in its place, which in a regular course cicatrizes; in the opposite case, however, it continues and leads to abdominal phthisis. The nodules are of the size of a pea, and stand either singly or in groups, and then become confluent, as it is frequently found in small-pox. We now perceive, standing over the intestinal niveau, elevated surfaces full of breaks, of circumscribed form, and on their top, according to the number of confluent nodules, a corresponding number of eschars are seen. As to the manner in which the eruption developes itself, nothing is known with certainty. Whether, for instance, the eruption appears all at once between the fourth and seventh day, as in variola, (?) or whether additions are made during the nervous stage, perhaps towards the fourteenth day, as in varicella and varioloid, nothing is at this time decided. The probability, however, is that the eruption takes place within a definite period, between the fourth and seventh day, that the formation of eschars follows during the nervous stage, and that at the fourteenth day, either separation of the eschar and recovery or intestinal phthisis ensue. 3. Changes upon the respiratory mucous membranes: It is reddened from the bifurcation of the trachea into the minute bronchial tubes.

Prognosis is very unfavorable. One-third of the patients generally die. The proportion of mortality is worse than in the plague; of one hundred individuals thirty-three perish. It depends—1. On the causal momenta. Where the disease originated from exhaustion of the vital power, excess in coitus, continued use of purgatives, or narcotics, the prognosis is al-

ways worse than where atmospherical influences caused its generation. 2. On the stage. If the physician is called in the first stage, and acts properly, much can be done; if later, but little benefit can be expected. 3. On the regularity of its course. Where this exists, it is favorable; when the first stages are prolonged, it is very unfavorable. 4. On the intensity of the nervous symptoms. The more speedy the general collapse, the greater the alteration of the countenance—the worse is the prognosis. Twitching of the tendons, picking of the bed-clothes are very unfavorable. 5. The highest importance should be attached to stools. The earlier they appear, the more frequent they are, (three or four times in twenty-four hours is the rule); the more blood is mixed with them, and the darker and the more dissolute it is, the more we have to fear. Hæmorrhages are not absolutely fatal. 6. On the condition of the pulse. The more frequent it is, the more unfavorable, particularly if it loses at the same time its energy. 7. On the nature of the fever. The more distinct its remission, the more it approximates the type of tertiana, the more favorable it is. 8. The state of the respiratory organs. If these participate, the symptoms will not be so favorable, especially if it take place towards the sixth or seventh day; cough, if it occurs towards the eleventh day, is of less moment; its entire absence, however, is more favorable. 9. Appearance of the tongue. It is favorable when the margins and the tip of the simply dry tongue continue moist, and it retains its breadth; it is unfavorable, however, when the tongue becomes quite dry, more contracted, chip-like, and with stammering speech can utter no word distinctly. 10. Decubitus. The earlier it appears, the more unfavorable; still worse is the early appearance of vibices, especially when they rapidly grow. 11. Individuality. In very decrepid individuals it is unfavorable; also very plethoric individuals are very much in danger, on account of easily supervening apoplexy. 12. Crises. When they appear in due time, are harmonious and constant, they are favorable. Irregularity of the symptoms during the critical period is very bad. 13. Perforation of the intestine is absolutely lethal. 14. Affection of

the breast, formation of tubercles, pseudo-erysipelas, make the prognosis very unfavorable. 15. In convalescence. We are to be led by the principle that the detection of unfavorable symptoms is of more importance in prognosis than a series of good ones.

Treatment.—Prophylaxis.—Since the contagion is fixed to the exhalations, sedes, &c., of the patients, we must endeavor, in order to avoid its transference, to decompose the exhalation and the alvine secretion as rapidly as possible. This is done by means of chlorine or pulverized coal, or fumigation of muriatic acid, in the vicinity of the patient; evaporation of alcohol and frequent renovation of air. For persons that must often be near the patient it is advisable to spit out their saliva, often to rinse their mouths with vinegar, to sleep in another room, to enjoy fresh air, observe the greatest cleanliness, and avoid all depressing influences.

Treatment of the Disease itself.—When symptoms of the received contagion appear, as nausea, headache, weariness, chilliness, an attempt may be made to remove it by means of an emetic. Tartariz. antim. may be administered, in combination with ipecac., in order to avoid its action upon the bowels, and an infusion of linden-blossoms or verbascum given for drink, and the patient advised to stay in bed. When the disease makes progress notwithstanding, it cannot be cut short, but will run through its stages. In rare cases where we get to treat the patients from the first beginning of the disease, it may happen that the disease perishes abortively on the fourth or seventh day, especially in forms with gastric symptoms, as nausea, inclination to vomiting, violent headache. Also, here an emetic may be given with advantage; but ipecac only should be used, to avoid laxative effects. In the other case, where these symptoms do not appear, the treatment has to be modified according to the various stages.

First Stage of Irritation.—The violent vascular irritation has to be moderated by suiting remedies, and where the disease is of a sthenic character, even venesection of 8 or 10 oz. may be necessary. Internally, we give the saline medicines, cit-

rate of potassa either by itself or as effervescing draught, (potio Riverii); for drink, a weak lemonade or sugar-water. If, however, reaction is from the beginning of an erethic character, we give aqua oxymuriatica (chlorine) ʒj. in decoction of althæa. Constipation has to be removed by proper clysters; e. g. vinegar with some castor-oil. When pains in the cæcum appear, we must try to moderate them by frictions of ol. hyoscyam. coct. with unguent. hydrargyr. fortius. If they become very vehement, apply leeches, and afterwards emollient fomentations of linseed, with cicuta or herb. hyoscyam. To this comes a strictly antiphlogistic diet, gruel, barley-water, simple mucilaginous drinks—nothing irritating.

Treatment of the Complications. 1. The violent congestions towards the head with furibund delirium. Here general bleeding has been recommended; but it is advisable only where the fever is of a sthenic character; in the opposite case it certainly does more harm than good. The best is to apply sixteen or twenty leeches behind the ears, and cold fomentations to the shaven scalp. But where violent catarrhal affections exist, these fomentations have to be made of lukewarm vinegar and water; otherwise take snow and ice or Schmucker's fomentation.* Where these fomentations are not agreeable to the patient, they have to be stopped. Besides this, derivative remedies must be applied—sinapisms to the calves of the legs and soles of the feet, clysters of one-third vinegar and two-thirds decoction of bran. Internally give acids, muriatic acid ʒvi., to decot. althaeæ ʒvi.; sour drinks, lemonade, diluted sulphuric or phosphoric acid.

2. Pneumonic symptoms. Where symptoms of inflammation of the lungs exist, the treatment has to be directed against it. If the inflammation is confined to a small spot, topical bleeding of the inflamed part and lukewarm frictions

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* Schmucker's cold fomentations consist of 4 lbs. water, 2 lbs. acetum vini., 1 oz. nitre, and 4 oz. muriate ammon.; or according to Richter, water lbs. 4, acetum vini lbs. 4, nitre oz. 16, muriate ammon. oz. 8. F. R.

of ol. hyoscyam, unguent. digitalis, and unguent. hydrarg. should be applied: if, however, the inflammation extends to a larger part of the lungs, and the fever is of a sthenic character, general bleeding besides topical is indicated. Internally mucilaginous remedies, emulsions, barley-water drink, and antiphlogistic diet.

If at the end of this first seven days' period, an attempt at a crisis should appear, which, however, is mostly but momentary, and rarely sufficient in degree, it must be properly supported; for instance, critical epistaxis is to be encouraged by the inhalation of warm vapors; crisis of the skin by means of pulv. Dover., infus. flor. verbasci or sambuci.

2. *The Nervous Stage.* When these momentary crises stop, and the disease passes over into the nervous stage, our whole attention should be directed to the specific diarrhœa, the accompanying fever, and the tendency to dissolution of the blood. Various remedies have been tried, tonics and astringents, logwood, rhatany, &c.; narcotics, especially opium, the preparations of iron, muriate of iron, as recommended by Autenrieth,* but none have proved satisfactory. The best effect was obtained from injections of starch with chlorine, and in the evening when delirium and restlessness appear, an addition of 20 or 30 drops of laudanum. Locally, when violent pains in the cæcum are present, make use of topical bleeding, and afterwards of fomentations of emollient herbs; but where there is a disposition to tympanitic swelling of the abdomen, apply irritating frictions of volatile liniment, with opium, linimentum saponis compositum. Internally, aqua oxymuriatica, (chlorine) either by itself in a mucilaginous vehicle, or according to circumstances, with an infu-

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* Autenrieth gave murias ferri. gr. VI., XII., XVI., in twenty-four hours; Pammer gave from 5 to 10 grains of it every two hours in powder; an anonymous writer in Rust's Repert., gave tr. fer. mur. ℥IV. in aq., menth., pip., during the day, with the happiest effect. Vide Richter's Mat. Med., Vol. V. p. 64. F. R.

flor. arnicæ. Where symptoms of dissolution of the blood are present in a high degree, we administer the pure muriatic acid, ʒss. to ʒjs., or phosphoric and sulphuric acids in drinks. When in this stage bloody stools appear, the stronger astringents, as alum gr. x. to xx., with gum arabic are proper. Externally, the body should be sponged with vinegar, with diluted sulphuric acid, combined with whiskey or spirits of wild thyme.

The diet may be more nourishing in this stage; broth with the yolk of an egg; for drink, infus. flor. sambuci, light punch without lemon-juice; and in great debility, where pneumonic symptoms do not contraindicate it, wine, especially claret, but in small portions only, should be used, say three or four table-spoonfuls in a pint of decoction of barley or malt.

Third stage of crisis. Close attention should be paid in this stage to the crisis. Rarely is the eleventh day of importance, but more particularly so is the fourteenth, seventeenth or twenty-first day, as the crisis is apt to appear on one of these days. As soon as premonitory symptoms of the crisis appear, the whole attention of the physician must be directed to the production of a true or complete crisis. Individuals of a rigid, husky skin, have every evening to be placed in a bath of aromatic herbs, and warm water has to be poured over the free part of the body for five or ten minutes, then the patient has to be rubbed with a dry cloth and placed into a warm bed. Blisters may also be applied, but they are contraindicated when ecchymosis and decubitus are present. The effect of these external remedies must be supported by internal ones, as infus. valerian, with liquor ammoniæ acet., or liquor cornu cervi succin.;* further by small do-

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* *Liquor cornu cervi. succinatus.*
℞ Acidi succini. ʒj.
solve in
Aquæ distillat. fervidæ, ʒviii.
solutioni immitte
Ammoniæ carbon. pyro-oleasi. q. s. ad perfectum saturationis gradum.
Filtra et serva.
Dosis: drops twenty or more. F. R.

ses of camphor, four or five grains in twenty-four hours in powder or mixture. Where the crisis is going on, warmer covering and a light aromatic tea are sufficient, instead of those remedies. The symptoms upon the intestinal mucous membrane commonly continue and must be counteracted by injections, (without opium, however), with the addition of eight or twelve drops of the liquid acetate of lead. To give this remedy by the mouth is not advisable, on account of its effects upon the stomach. When pains in the cæcum are present, when the mucous, cream-like evacuations again appear, when the pulse becomes strong, the antiphlogistic method before explained, has to be returned to.

In the treatment of the hectic fever, Peruvian bark is the principal remedy, in combination with mucilage where intestinal irritation is present; where such is not the case, with acids. Caution, however, is necessary, and the sweats must not suddenly be suppressed, for this can seldom be done without bad consequences. The diet should consist of easily digestible but nourishing victuals, broth, young meat, &c.; the drinks, of good old wine and water. The patient has to be watched in regard to his sexual instinct; for it must by no means be gratified.

Treatment of some varieties. Where there are symptoms of excessive dissolution of blood, as in febris putrida, the source of the colliquative hæmorrhage must be stopped as soon as possible. In hæmorrhage from the nose, cold fomentations may be applied to the root of the nose, and dossils o lint moistened with aq. vulneraria Thedenii* pushed into it. Where hæmorrhages under the skin, ecchymoses, vibices, petechiæ are existing, the surface has to be sponged with acet.

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* Aqua vulneraria Thedenii.
℞ Aceti vini crudi, ℔ssiij.
Spirit. vini rectificati, ℔jss.
Acidi sulphurici, ʒj.
Aqua distillat. ʒv.
Mellis despumati, ℔j. Mix. F. R.

vin., with spirit. serpilli or whiskey—in urgent cases even with diluted sulphuric acid.

In complication with inflammation of the liver, topical bleeding, frictions with ung. hydrarg., and ol. hyoscyam. are indicated.

In the second stage, suppression of urine often takes place and is here a nervous symptom. The secretion of urine is either entirely wanting or is but scanty. The bladder has to be examined daily, and if necessary the catheter to be introduced; over the bladder unguent. camphor. and tinct. cantharid. may be rubbed in.

Of the secondary disorders we mention only the following five forms, as the others have to be treated according to general rules.

1. *Decubitus* is cured with more difficulty, than prevented in its development. The bed of the patient should be soft and smooth, the patient must be washed after each alvine evacuation with a sponge dipped into warm water, the parts lain upon must be washed with kirschwasser (a strong liquor) and lard, and the patient lie as much as possible on his side. After decubitus has developed itself, the ulcerating surface has to be dressed with unguent. saturn. with a small addition of pulv. opii; when the ulceration passes over into gangrene, it may be washed with aromatic infusions and decoct. cinchonæ. If the character of the ulcer is a mixed one, the treatment must be so likewise.*

6. *Gangrenous furuncles.* In the beginning they must be dressed with aromatic fomentations, and opened on the top

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* Unguentum Autenriethii contra decubitum.

℞ Corticis quercus, part 1.

Aquae, part 8.

Coque ad dimidii partis remanentiam.

adde

Acetum Plumbi.

Quamdiu præcipitatum aritur, quod in colaterio charta emparetica tecto impositum cum aqua communi sedulo elotum in tantum siccetur ut pultem unguinosam præbeat, quæ loco frigida servanda est.

as soon as pus shows itself. Afterwards they have to be dressed with styrax ointment,* and the aromatic fomentations must be continued.

3. *Pseudo-erysipelas* generally terminates fatally; is treated with dry warmth, scarification, and over them aromatic fomentations perhaps might prove more successful.

4. *Parotitis* deserves our full attention on account of its danger. The following treatment has proved best. When a small painful tumor makes its first appearance, from eight to ten leeches must immediately be applied to the painful spot, and then frictions of ol. hyoscyam. If the tumor increases still afterwards, the topical bleeding should be repeated, and narcotic emollient fomentations applied. It should be opened as soon as possible.

5. *Inflammation of the internal ear.* A good number of leeches are to be put behind the ear, and after abscess has formed, we must endeavor to evacuate it externally as soon as possible. For this purpose we make emollient injections and pass vapors into the ear. After evacuation has taken place, put the patient in such a position as to promote its further discharge and keep the ear clean, and lastly, use gentle astringent injections.

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* Unguentum de styrace. ℞ Styracis liquidi, elemi, ceræ flavæ aa ℥viiss. Colophanii ℥ij. Olei olivarum ℔ssijss. Mix: fiat secundum artem unguentum.

ART. V.—*Cancer of the inferior lip and corresponding maxillary bone: Cure after two operations, performed at different periods.* By MARTIAL DUPIERRIS, M.D., of Havana.

D. Francisco Alvarez, born at Cadiz, aged 50, an ex-officer of the custom-house in Havana, of bilious-sanguine temperament, and endowed with a pretty strong constitution, consulted me, on the 19th July, 1843, for an affection of the lower lip, which was attended with horrible suffering.

I learned that a small pimple had first made its appearance a short distance from the left commissure of the lips, and had been followed very soon by an ulcer attended with lancinating pains, which gave the patient not a moment's repose. This ulcer extended towards the right side, involving a large portion of the lip; it also attacked the cheek internally. Divers means which were prescribed by a professor of this city, failed to allay the sufferings of the patient, or check the progress of the disease; on the contrary, the pains augmented in severity, the ulcer enlarged daily, and bled upon the slightest touch.

When the patient presented himself to me, the surface ot the ulcer was grayish and unequal, the edges everted and hard, and the discharge from it of an ichorous nature. It had destroyed a large portion of the soft parts comprised between two lines: one drawn on the right side, from the free border of the lip, about ten lines from the commissure, to the centre of the hyoid bone; the other, beginning at the left commissure, and pursuing a similar direction until it joined the first; the triangular space thus marked out, presented the exact form of the ulcer externally. Internally it had invaded the left cheek as far as the anterior edge of the masseter muscle, involving all of the tissues except the integuments. The first two molars of the right side were wanting in the lower jaw. The tissues adjacent to the ulcer were hard, red, and painful.

The patient possessed a good deal of courage, and having been attended by me 15 years before, in the Island of Por-

to Rico, during an attack of typhoid fever, which came very near proving fatal to him, he begged me earnestly to do something to rid him of his fearful malady. Encouraged by such a disposition on the part of the patient, I did not hesitate to undertake the following operation, which was performed on the 23d of July, 1843, with the assistance of Dr. Coronado, licientates Herrera, Cabellero, Otero, and one of my students, and in the presence of a few friends of the patient.

The patient being seated on a firm chair, and the facial arteries, as they pass over the jaw, compressed by an assistant, I made an incision, beginning at the free edge of the lip, three lines from the right commissure, and proceeding downwards to the middle of the os hyoides; a similar incision, commencing at the commissure of the left side, joined the first at an acute angle; a third was carried from the left commissure, in the direction of the superior dental arch, to the anterior edge of the masseter, and from the extremity of the latter I made a fourth, which circumscribed all the affected parts, and became continuous with the second; lastly, a fifth incision was carried from the right commissure to the masseter of the same side. Torsion was applied to the arteries, which bled profusely. After having dissected out carefully all the morbid parts, I discovered that the bone was slightly affected with cancer; the periosteum had disappeared over a space of three lines towards the symphysis, on the left side. After having scraped the bone until it presented a healthy aspect, I cleansed the flaps, approximated that of the left side as closely as possible to the one on the right, raising up the former towards the flap made by the transverse incision of the cheek, to which I united it by means of eight points of the twisted suture. The mucous membrane was retained in contact with the integuments of the free edge of the artificial lip by five points of the interrupted suture.

After the operation, Alvarez had fever which required bloodletting and a continuance of the diet that had been prescribed. Cicatrization occurred every where except at the upper part of the junction of the two lateral flaps; this point remained

open in spite of every thing I could do. Twenty days after the operation, the artificial lip might have been said to be natural, as nothing could be perceived save three linear cicatrices, and the ulceration just mentioned, which, three months afterwards, from its character and extent required an operation of far greater severity, which I shall now describe.

At the bottom of the wound, something hard could be felt with a probe; this was the maxillary bone affected with cancer, or rather the point where this terrible disease renewed its ravages. I therefore prepared the constitution of my patient in a suitable manner, and fixed the operation for the 17th October. Dr. Coronado, licentiates Herrera, Muezes, &c., and one of my pupils, kindly lent me their aid a second time.

The patient being fixed firmly to a seat, incisions were made through the soft parts in the same direction as at the first operation, only they were prolonged as far as the thyroid cartilage, in order to remove all that might be found affected by the rapid progress of ulceration within a few days. The flaps being dissected backwards, exposed about six inches of the lower jaw; the third left molar was extracted, and the bone divided by means of the chain-saw; the second molar of the right side being absent, the saw was applied at that point, but the extremity not presenting a healthy aspect, about two lines more were removed, which left the bone perfectly healthy in appearance. A loop of thread was then passed through the superior part of the genio-glossi muscles, and by means of a strait bistoury, I removed that portion of bone isolated by the saw, carrying the knife close to the concave surface.

In the course of the operation, torsion was applied to four arteries, and hemorrhage was checked without difficulty by lotions of vinegar and water. The wound was large and hideous; six needles and the twisted suture were applied at proper distances, and the mucous membrane was fixed to the skin by the interrupted suture, as in the first operation. The integuments were by no means abundant, but were sufficient to close the great opening necessarily made in order to destroy the malady.

The patient went to bed; an anti-spasmodic mixture was given him, with directions as to diet. Acute pains, and very considerable excitement supervened; these were allayed somewhat by v. s. to 16 ounces. Compresses wet with resolvent lotions were kept constantly applied. On the third day, there was difficult deglutition, and obstructed respiration; a tumor, the size of a pigeon's egg, had formed at the lower part of the cicatrized wound, and when opened, gave exit to a considerable quantity of mucus slightly tinged with blood; a piece of lint was inserted in the opening to prevent a re-accumulation of matter.

On the 23d, the two lower needles were removed, allowing the threads to remain; on the 26th, the other needles were likewise withdrawn, the cicatrization being complete save at the inferior part where the tent was introduced. This was removed some days afterwards, and nothing else occurred. In a few days, we could perceive that the extremities of the bone were losing their hardness, and becoming covered with vascular granulations, which on each side adhered to the labial mucous membrane. A month subsequently, a pretty firm substance had formed in the interval between the two ends of the bone; but unfortunately this work of nature was suddenly arrested, and the tissue is not sufficiently firm to consolidate the parts like the lost bone. I can attribute this arrest to nothing but the advanced age of the patient.

Remarks.—I have not dwelt minutely on the attention required by these two operations, because nothing extraordinary occurred. I will only observe that the rapidity with which the wounds cicatrized, and the absence of any accident subsequent to these important operations, are due, it seems to me, to the method which I employed, a method which Professor Serre, of Montpelier, has so well explained. It is easy to see that any other mode of autoplasty, would not have enabled me to perform the second operation with a chance for such rapid and brilliant success. This is particularly evident from the present state of Alvarez who, at this

time (Feb. 15), four months after the second operation, not only enjoys good health, but moreover does not present the least appearance of a return of the affection. It is true, the deformity is striking; but was it possible to avoid it after two operations of so grave a character? No one will presume to say so. Hence the patient does not cease to evince his gratitude; and the beautiful results, which the progress of surgery has enabled me to bring about, render me happy in thinking that, for the third time, I have saved the life of an unfortunate man, who has a family dependent on him for support.

The portion of bone removed, and which I preserve, is porous (*criblée*) for an extent of three inches, nothing being left but a thin lamella of the posterior plate.

I seize the opportunity to mention here that for twenty years I have used cold water, acidulated with vinegar, to deterge wounds, whether produced by violence, or in the course of numerous operations performed by me, and have never had to deplore the occurrence of tetanic symptoms, nor the absorption of air by the veins, although the former of these affections is very common in the countries where I have exercised my calling. I shall forbear adding any explanation of the mode of action of this remedy, which I think may be considered as a true prophylactic against the development of tetanus; yet, in my opinion, a satisfactory explanation could be given.

Havana, February 15, 1844.

REVIEWS.

ART. VI.—*The Anatomy, Physiology and Pathology of the Human Teeth, with the most approved methods of Treatment; including Operations and the method of making and setting artificial teeth: with* 30 *plates.* By PAUL B. GODDARD, M. D., M.A.N.S., M.A.P.S., Demonstrator of Anatomy in the University of Pennsylvania, Lecturer on Anatomy, &c., &c. *Aided in the practical part* by JOSEPH E. PARKER, Dentist. Philadelphia: Cary & Hart. 1844. 4to. pp. 227.

It was the purpose of the author of this very well executed volume to render it a pandect of dental knowledge. He has collected into it whatever has been ascertained concerning the structure, physiology, and diseases of the teeth, as well as the remedies for the various ills which assail them, and has embellished his work with a profusion of drawings, by which all has been done that art could accomplish to make the subject intelligible. The design of the author seems to us to have been carried out successfully, and with judgment and good taste. The work strikes us as precisely such an one as must delight the heart of the young dentist, who aspires to the reputation of learning in his profession. Nor is this the only class of readers for which this treatise possesses attractions. In this country, where the distinction between physician and general practitioner, and even between physician and surgeon is not known, but every doctor must be at once physician, surgeon, accoucheur, and dentist, some skill in

the management, at least in the extraction, of the teeth, is held to be a necessary professional accomplishment. The first operation the student, commonly, is set about performing, after he enters the shop of his preceptor, is pulling teeth. Without any knowledge of their anatomy, his reliance, of course, is on the strength of his *pullekin* and his right arm. In time, and after inflicting much needless pain, and, perhaps, injuring many jaws, he becomes, by dint of mere practice, a good dentist, so far as drawing teeth is concerned. Now a knowledge of what is contained in this compendious work would save patients much suffering, and the young practitioner many mortifications. With this persuasion, and in view of the general necessity there is for physicians engaging more or less in the practice of dentistry, we have undertaken to present an account of such parts of the volume before us as are interesting to the general practitioner.

In a work professing to give a complete account of the teeth, Dr. Goddard felt it proper to begin at the beginning, and hence has devoted a chapter to the history of the art of dentistry. We shall not follow him through this, nor shall we stop to notice the chapters which treat of the anatomy of the maxillary bones, but proceed directly to the teeth.

These important appendages to the human body belong, it seems, to the *dermoid* or cutaneous, and not to the osseous system, as we were taught by Bell, Fox, and others. They are attached to the jaw by the alveoli, which come and disappear with the teeth. Four distinct structures are distinguishable in the teeth, namely: the *enamel*, the *ivory*, the *crusta petrosa*, and the *dental pulp*, which, exhibiting a marked difference in character, require different modes of treatment in the prevention or management of their maladies.

"The enamel is evidently a secretion or crystalization of earthy substances from a solution." It is thickest at the points of the tooth, where its growth begins, by more points than one, and from which it spreads gradually over the whole surface. Where the two formations meet there is a line formed, and if the union between them is not perfect a fissure is left,

which often reaches nearly or quite to the ivory, affording a nidus for acid matters which induce decay in the tooth. The enamel is composed of exceedingly minute hexagonal prisms, which under the microscope are seen to be piled obliquely one upon another, waving with a gentle undulation, and presenting an appearance not unlike "the basaltic columns of the giant's causeway." They are held together by animal cement, which amounts to only one per cent. of the substance of the enamel, nearly the whole of the remainder being phosphate and fluate of lime, and carbonate of lime.

The ivory forms the greater part of the tooth, and is usually spoken of as the dental bone. For many reasons, however, Dr. Goddard does not consider it an osseous tissue. He gives in parallel columns the points of difference between bones and teeth, as laid down by Serres. They are as follows:

A BONE	A TOOTH
Passes through a cartilaginous stage.	Passes through no cartilaginous stage, but is a transudation from the surface of the pulp.
Has a periosteum.	Has no periosteum.
Is affected by rachitis and the other diseases of the osseous system.	Is not affected by rachitis or the other diseases of the bones.
Is destroyed by concentrated nitric acid.	Is *not affected* by concentrated nitric acid.
When calcined, leaves a white residue.	When calcined, leaves a bluish residue.
Is destroyed in extra-uterine conception.	Remains untouched in extra-uterine conceptions.
Is vascular.	Is not vascular.

Bones, moreover, decay much more quickly after interment than teeth, and the diseases of the two tissues offer the least possible analogy.

When a tooth is broken, the ivory presents a white satiny appearance due to its microscopic structure, which consists of tubuli of the 1-4620th of an inch in diameter. An idea of the very small size of these pipes may be conceived when it is stated, that the diameter of the blood globule averages

1-3000th of an inch. The ivory contains more animal matter than the enamel, and consequently a smaller proportion of calcareous matter. It does not lose in bulk or form by being deprived of its earthy ingredients by maceration in a dilute acid. In these respects it resembles bone more than does the enamel, but it still falls short of bone, in animal matter, in the proportion of 28 to 33. It is secreted by the external surface of the pulp, and being destitute of nerves or a circulation undergoes no change when once formed, unless attacked by a chemical or mechanical agent.

The *cementum*, or *crusta petrosa*, the last in its appearance of all the constituents of the teeth, is also a secretion, being deposited by the periosteal covering of the fang. Covering the fang and neck, its thickest point is on the fang, and its thinest where it joins the enamel. In composition it is intermediate between bone and ivory, containing more animal matter than the latter and less than the former.

Of the pulp the following description is given by our author:

"This, in the perfect tooth, is the remains of a substance which once formed the matrix of the growing tooth, taking the form of its ivory, which is secreted from its surface, and finally diminishing in size, so as just to fill the dental cavity. It is composed of a granular matter, which is invested by an exceedingly delicate membrane or *epithelium*, and held together by a delicate cellular tissue. It is highly vascular, receiving an arterial branch from the foramen in the end of the fang, and transmitting its effete blood by a vein, which escapes by the same aperture. An idea may be formed of the tenuity of these vessels by stating, that besides the artery and vein, this foramen (just large enough to admit a human hair) also gives passage to a nervous filament, from the fifth pair or trifacial, which forms a multitude of loops in the substance of the pulp, and confers upon it an exquisite sensibility. The surface of the pulp keeps the ends of the tubuli of the ivory bathed in a transparent and alkaline halitus or serous fluid, which traverses the tubuli by capillary attraction, and keeps the tooth in a moist and *living* state. This degree of vitality, which is very low, assimilates the condition of the tooth somewhat to that of the crystalline humor of the eye, which

seems to have a species of independent vitality of a very low grade, living as it were by the imbibition of the *liquor morgagni*, in which it is bathed. The ivory of the tooth formed by the pulp, depends ever after upon its integrity for existence, except as a foreign substance. Its only connexion with the body is by means of the serum filling its tubuli, supplied by the surface of the pulp, and there is but little doubt, that this fluid having reached the under surface of the enamel, continues to pervade it also by means of the delicate membranous matter between its prisms. The cementum possesses minute vessels which penetrate it from the periosteum.

"If the pulp is destroyed by any means, it decays, and the tubuli absorbing a morbid fluid, gives the tooth a dark blue color. Sometimes, when this occurs, the tooth becomes painful and requires extraction; and it is broken, immediately after the operation the decomposing pulp exhales the very quintessence of fœtor. If a tooth be extracted and broken, immediately after death from drowning or strangulation, the pulp will be found almost black from congestion, and sometimes the vessels will be found to be ruptured, and extravasated blood will be discovered between the pulp and the parietes of the dental cavity. The blood globules too large to enter the tubuli, being broken or dissolved, may stain the ivory for some depth. Such cases have been recorded, and have induced the observers to conclude (very erroneously) that ivory was vascular."

So much for the minute anatomy of the teeth. We pass over nearly all that our author gives on this subject, as foreign from our design in the present article; but we cannot forbear to copy his account of the cause of the shedding of the temporary teeth, a subject which has been not a little discussed by physiologists. It is owing, according to his view, to the death of the tooth, produced by the loss of its arterial supply. He remarks:

"When the permanent tooth impinges upon the end of the fang of its predecessor, it cuts off its supply of arterial blood, thus producing its death. This is followed by an absorption of the end of the fang to a greater or less extent, rendering it loose and easily removed. This absorption does not occur in the tooth, as it is now an extraneous body, but is perform-

ed by the surrounding tissues, the action of which is excited by the irritation of the rising permanent tooth. During the existence of the temporary set, each side of the lower jaw possesses three arteries, one to supply the bone, a second to supply the germs of the permanent teeth, and a third for the temporary set. When the temporary teeth are shed, this last artery is entirely obliterated."

But we hasten to notice that part of the volume which treats of the diseases of the teeth.

The enamel is subject to fracture, cracking, denudation, and erosion, the remedies for which are various. For cracking, if the fissure be so large as to admit of foreign substances, our author recommends first drying the tooth, and then keeping it moist for a few seconds with a solution of mastic in alcohol, by which the crack will be filled and the ivory defended for a long time from the action of corrosive fluids. The file is to be applied to remove sharp edges of the fracture, but this is an instrument which is always to be applied with caution, since the exposure of the ivory leads to decay and loss of the tooth. For erosion, if deep, plugging is the remedy; but if superficial, treatment is not always required, and it may be sufficient to direct constant washing of the mouth with a weak alkaline solution, which will neutralize any acid secretion and diminish the rapidity of the decay.

Decay, or caries, is the great disease of the teeth, and the principal seat of it is the ivory. It is not caries such as affects the bone, for not being vascular, the ivory is not subject to the pathological changes through which the osseous tissue passes in the process of decay. The decay of a tooth seems to be due to a chemical agency. If from original imperfection in the enamel, or by fracture or erosion, the ivory be denuded, any acid matter coming in contact with it must lead to a wasting of its body. Our author thus relates the series of changes:

"The acid having reached the surface of the ivory by a fissure or hole, commences to act upon its calcareous portion, after neutralizing the alkaline serum which pervades its tubuli.

It first dissolves the calcareous contents of the tubuli, and then the earthy portion of the ivory in their interspaces. The animal portion of the ivory, thus deprived of its calcareous matter, becomes soft, and usually either brown or black, and is gradually mixed with and carried off by the saliva. There is no doubt, at present, that the process is hastened after once an open cavity is formed, by the presence of either animal or vegetable parasites in the decayed cavity, which is an exceedingly proper nidus for such forms, and it is even supposed by Henle (Encyclopedie Anatomique, par A. J. L. Jourdan) that this may account for the spread of the decay from one tooth to another. This process is sometimes exceedingly insidious, in consequence of the original opening in the enamel maintaining its primitive size, until great destruction of the ivory has taken place beneath it, when it suddenly breaks in and a cavity is formed, where a few hours before none was suspected. In the case where the decay commences on the surface of the ivory under the enamel, the explanation of the process is slightly different. In this case there is no perceptible fissure or hole in the enamel, but a want of union between its basalt-like columns, a porous condition indicated by a slight and scarcely perceptible opacity. The ivory at the bottom of this porous spot is bathed in an alkaline serum furnished by its pulp, whilst the outside of the tooth is constantly exposed to the contact of either acid or acidifying substances. These are the conditions most favorable to the occurrence of *endosmosis* or transudation, the alkaline matter exuding and the acid intruding simultaneously. The ends of the tubuli thus bathed in acid, take it up by capillary attraction and carry it in the direction of the pulp, dissolving the calcareous contents of the tubuli. The process after it has thus commenced, is the same as that just described. The course of the tubuli and their capillary attraction for fluids, causes the decay to progress in the direction of the pulp, hence its investment is soon exposed, and inflammation occurring, toothache is the result. The decay, if suffered to progress, destroys first the crown and pulp, *sometimes* almost without pain, and then becomes nearly stationary, because the sides and not the ends of the tubuli are presented to its exciting cause; the absorption of the acid fluids is therefore very slow, and the rapidity of the decay diminishes in a corresponding ratio."

It is a curious fact, to which our author alludes, that healthy but dead human teeth, when inserted in the place of

others that have been lost, are subject to decay, the process being the same as that just described. The inserted tooth presents the same appearances under decay, and the steps by which it is removed do not differ from what are observed to take place in the original tooth. Dr. Goddard justly regards this fact as an incontrovertible argument against the doctrines of Fox, Bell, and others, who attribute decay to an inflammatory action—an action which, if possible in such a structure as the enamel or the ivory at all, is clearly out of the question in the inserted tooth, which is a foreign body.

But if the ivory possesses no sensibility and is not subject to inflammation, it may be asked, how does it happen that the decaying tooth when cut or pressed causes pain? Our author thus explains it:

"The tubuli are softened and converted into a state resembling cartilage; the calcareous matter in their calibres is dissolved and replaced by a morbid fluid, which, when the tubuli are compressed by the touch of an instrument, is injected forcibly on to the surface of the pulp, and produces the pain spoken of. When the decayed and softened part is entirely cut away, this pain ceases, because the parietes of the healthy tubuli are too rigid to allow this compression to take place; this is commonly attributed to the removal of the *sensitive* and *inflamed* bone."

The only remedy for this disease is *plugging*. The decayed part must be removed, and the cavity filled by a substance which will do no injury itself, and will at the same time protect the ivory from all irritating foreign substances. This is an operation for the professed dentist, and we do not propose to give the details of it, but would simply remark, that the only material for filling teeth employed by good operators, we believe, is gold foil. It is in all respects superior to the various other substances which have been used for the purpose, and ought to supersede every other. The mineral cement lately so much vaunted by quacks is discarded by all expert and scientific dentists.

The progress of decay leads finally to exposure of the investing membrane of the pulp, to *odontitis*, and toothache. The inflammation of the pulp, hemmed in as that is by the unyielding walls, is attended by an intensity of pain which few persons will endure for the three days in which it ordinarily runs its course when left to itself. Filling the cavity with cotton imbued with pure creasote is the best palliative remedy; but in order to afford relief the creasote must be genuine. If it has become brown and lost its fluidity it will no longer relieve toothache. Sometimes it is desirable to retain the tooth when all the soothing remedies have failed; in such cases it has become a pretty general practice to destroy the pulp by *arsenious acid.* But it is a practice which is not to be resorted to without caution. Perhaps there is but slight cause to apprehend fatal or serious consequences from the existence of an idiosyncrasy, but the possibility of such a thing should put us on our guard. A case is reported in a late number of the Journal of Dental Science in which arsenic, thus applied, was charged with having led to the death of a valuable member of our profession. The subject was Dr. Wolcott, of Connecticut, in whom erysipelatous inflammation of the face followed the use of arsenious acid in toothache; but the quantity applied was so small that it is not justly chargeable with the fatal result. Not the eighth of a grain was inserted into the cavity of the tooth, with half the quantity of morphine, more than which is often administered internally in intermittents, lepra, and other affections. The smallest dose on record which led to death in the human subject, was four grains and a half, according to Christison; Dr. Beck, however, on the authority of Hahnemann, alleges that two grains will kill a man, and Renault reports that he killed a dog with one grain; but in his experiment the œsophagus of the animal was closed by a ligature, and vomiting rendered impossible. In no instance have serious effects followed the employment of so small a portion as the eighth or tenth of a grain. The death of Dr. Wolcott was clearly the result of erysipelas of the neck and face, in the production of which there is no evidence that the

arsenic had an agency. The quantity recommended by our author is the sixteenth of a grain, which is carefully enclosed in the cavity by wax, and would not do any serious mischief if it got into the stomach. He condemns the conjoined use of morphine, which, he says, so far from diminishing, actually increases the pain, while it impedes the escharotic action of the arsenic. Neither does he use the common arsenic of the shops—the article must be pure. It destroys the vitality of the pulp, and also forms with it a compound incapable of putrefaction. For a few hours some pain follows the application, when it ceases, ordinarily, and in a day or two the tooth may be plugged. He adds:

"When the disease has progressed to the suppurative stage, and it is desirable from any cause to save the tooth, it is best done by the application of a minute portion of pure arsenious acid to the dental cavity, which is then covered by wax or a mixture of wax and mastic, and renewed once a week for three or four times. By pursuing this plan the offensive discharge will cease, and the tooth may be plugged and worn for an indefinite length of time."

The last great remedy of all—the dernier resort of the dentist, is extraction. This, like the amputation of limbs, is an evil which is to be put off as long as possible, but in some cases it is the only remedy. How it is to be done, then, becomes the question. Dr. Goddard declares for the forceps in every situation where they can be applied. He is no friend to the key. He exhorts dentists never to take it up, "except when nothing else will answer their purpose." It is apt to fracture the tooth, especially if the claw be either too large or too small, is sure to bruise the gum, and in many cases breaks off the alveolus, causing little flakes of bone to exfoliate for weeks after the operation. "Sometimes the fracture of the alveolus is much more extensive, causing it to be broken away from four or five neighboring teeth. This is always a serious injury, for in the event of hemorrhage it deprives us of the power of using the best remedy, namely, plugging the socket." The forceps, as variously modified,

are applicable "to any tooth or fragment of a tooth," and are free from all of the above objections. They should be as small as possible, and skill should supply the place of force. In order to easy extraction, let the gum-lancet be freely used —"it will facilitate *amazingly* the removal of the tooth." The teeth are held in their sockets by ligamentous fibres, which are especially numerous and strong between the molars; these are to be divided by pushing the lancet boldly around in all directions.

The teeth often suffer from a deposit of tartar around their necks. When first deposited it is in the form of a soft yellowish-white substance which may easily be removed by a brush. It soon becomes slightly fetid, and, we are told, if examined by the microscope exhibits a great number of living animalculæ. After a time it hardens, assuming a consistence greater in density than chalk, but never becomes as hard as the enamel. It is composed of the solid portions of the saliva, mucus, and the debris of microscopic animals—or phosphate of lime and magnesia, mucus, and animal matter. The incrustation of tartar causes a separation between the gum and the neck of the tooth. It is to be prevented by the use of the tooth-brush; and when the deposit forms it is to be removed by proper instruments.

Serious hemorrhage sometimes, though we believe rarely, results from the extraction of a tooth. It may arise from a hemorrhagic tendency, of which the records of our profession furnish numerous examples, where profuse and even fatal bleeding follows the slightest wounds; or it may be caused by the failure of the dental artery to withdraw within its bony canal after it has been ruptured. In most instances, this vessel being slightly elongated before it gives way, by which its adhesion to the bone is broken up, retreats into the cavity, and thereupon the bleeding ceases. Where this does not take place and the flow of blood continues too long, or is excessive, it becomes necessary to use measures to restrain it. A stick of nitrate of silver tapered to a point, may be applied directly to the bleeding vessel, and will seldom fail to arrest

the hemorrhage; but if it should it is easy to control it effectually by filling the socket with soft linen, cotton, or as is proposed by some, with plaster-of-paris, introduced in a soft state and left to harden in the cavity.

In the greater number of the subjects embraced in this comprehensive work our readers would take no interest, and we therefore pass over them without notice. The professional dentist would not be content with an analytical review of them, however full, and those for whom this article is written are not interested in understanding the various processes of mechanical dentistry. We again refer the young dentist to Dr. Goddard's beautiful volume for information concerning the anatomy, physiology and pathology of the human teeth, as well as the methods of treating their diseases and deformities, and of making and setting artificial teeth, for the illustration of which he will find numerous plates, which not only embellish, but materially enhance the value of the work. It was designed by the author especially for students of dental surgery; but it is not improbable that its instruction would be highly advantageous to many who are engaged in the practice of dentistry. Y.

ART. VI.—*First Principles of Medicine.* By ARCHIBALD BILLING, M.D., A.M., Member of the Senate of the University of London, Fellow of the Royal College of Physicians, &c., &c., &c., &c. *First American from the Fourth London Edition.* Philadelphia: Lea & Blanchard. 1 vol. 8vo. pp. 304. 1842.

The age of industry, toil, and bustle, in which we live, seems to have communicated a spirit of enterprise, or it may be more proper to say a spirit of *ultraism*, to all the occupations of civilized life. The age of iron has passed, and has been succeeded by what may be emphatically called the age of steam. From him who rules the destinies of the mighty

house of Hapsburg, through all the grades of political rulers, down to the most humble—all have an eye upon the operations of steam. The magnificent conceptions of the statesman are carried out by its power; the manufacturer, the agriculturist, and even the *printer*, have availed themselves of its advantages; and to judge of its mighty effects as a book-making power, it is hard to resist the idea that *pens* do not also go by steam.

The vast amount of books, both cheap and dear, good and entirely worthless, which are thrown off from the press and distributed upon this continent, is truly wonderful, and must form a strong characteristic feature of the age. It would be unreasonable to suppose, that, amid the excitement of this mania, the members of the medical profession should remain "lookers on," without contributing their mite. We accordingly find that our brethren, not to be behind the age, have industriously set themselves to work in manufacturing *new books* out of old ones, by re-moulding ideas that have been common to the profession from the days of Hippocrates to the present time; the consequence is that many of them are never read at all, or read to be consigned to that oblivion which they so justly merit.

Fortunately for the profession, however, there are many men of the present age, who have the talent and energy necessary to examine facts and form conclusions for themselves, and whose works are as refreshing to the student and seeker after truth, as the oasis to the wayworn traveller in the desert.

Such is the character of the work now before us, which deserves, for the many important truths it contains, and the manner in which they are told, a much more favorable reception than it has met with at the hands of the profession. It is the result of long, deep, and accurate thought, and has the merit of briefly stating *many* medical truths which are of the utmost importance to the practitioner.

For the purpose of showing the cast of mind and the determined spirit of inquiry of Dr. Billing, we will here introduce

a short extract from the advertisement to the second edition of his book.

"I was originally led to publish this treatise by a recollection of the difficulties I had met with in the study of my profession, and by the hope that I might aid in removing them from the path of others.

"Upon commencing the study of medicine and surgery, after having become acquainted with the more minute physical sciences in the University, I was appalled to find it a complete chaos. Our family physician, really a man of great talent, and one of our professors, disheartened me by his answers. I inquired, 'What is fever?' Answer, of course, Cullen's definition. 'But what produces it?' 'Sometimes one thing, sometimes another: excessive cold or heat, or the effluvia from a person who has fever.' 'But what is the cause of the phenomena in the body?' 'Spasmodic contraction of the extreme vessels.' I could understand that cold might contract the extreme vessels, but I had been taught by the professor of Chemistry that caloric expanded everything. And, again, I did not see how effluvia produced spasm, nor how the spasm, even if it were produced, could make the skin extremely hot as well as cold. I was advised to read Cullen, and did so; but without finding the information I sought. Again I asked, 'When you give a dose of rhubarb or castor oil to stop a diarrhœa of many days' standing, how does it effect this object?' 'By clearing away the peccant matter.' 'But would not the diarrhœa scour away the peccant matter itself?' 'Not so well.' This did not satisfy me.

Neither could the surgeon clear up these points: 'for his part he did not pretend to understand physic.' I 'walked' the hospital at his elbow as dresser, and inquired, 'Why do you apply cold lotions to that inflammation?' 'To moderate the action of the vessels.' 'Inflammation, then, is over action of the vessels?' 'Yes.' 'Why do you apply that *astringent* (goulard or nitrate of silver) to that other inflammation?' 'To diminish the action of the vessels.' Now the *action* of the vessels being *contraction*, my logic did not enable me to comprehend him; so, after asking why he put a cold lotion or poultice on one inflamed part, and a warm poultice or fomentation on another, and being told I should find out by experience, I resolved on attempting to find out myself."

In giving a general view of the apparatus which supports the life of man, the author contends that the contraction of

the heart only is muscular, and that of the arteries elastic and that the latter keep up a *constant* contractile force upon their contents, whether the amount of blood which they contain be great or small, keeping them constantly full, and at the same time exerting a force which is sufficient, during the temporary contractions of the heart, to cause the equability of the stream in the veins.

"It has been supposed," he adds, "that the circular fibres of the ARTERIES were muscular; that they contracted and relaxed at each pulse; and that the throb felt was caused by a dilatation of the artery. Those fibres are NOT MUSCULAR, but more approaching to a ligamentous tissue, firm, and, though elastic, not yielding to the force of the heart at each beat, but, on the contrary, preserving the CALIBRE of the artery UNIFORM, as may be seen by laying bare an artery in a living animal, or when the artery is exposed in an operation: it is LONGITUDINALLY that the arteries are STRETCHED at each injection from the heart, by which their capacity is increased; the consequence of which, from their being bound down in various places, is, that there is a SERPENTINE motion in the artery where it is at all loose. The fibres of the middle coat of the artery, being arranged circularly, allow of the separation laterally, and thus *accommodate* themselves to the *elongation* of the tube, whilst they *resist* its *dilatation*." (pp. 33, 34.)

This statement, we are told, has been confirmed by microscopical observations made by Schwann and Ehrenberg, in 1836; whereby this long-continued controversy has been set at rest, as regards the muscularity of the arteries.

It is also contended, and we think with much show of reason, that the heart exerts really a very feeble power in forcing the blood through the arteries and veins; for, upon the common hydrostatic principle of fluids finding their own level by the mere force of gravitation, we may account for the *greater* part of the force which is requisite to keep in motion so small an amount of fluid; the greater amount of blood, in all natural positions of the body, being below the level of the heart.

As we have promised ourselves to give nothing more than a passing notice of some of the general features of the book, we are compelled to omit many matters of interest; among others

the action of the nerves upon the muscles and capillary arteries—giving barely this opinion of the Doctor's, that "all organic action is contraction, produced by nervous influence."

Upon the subject of animal heat, we have the following rather curious observations. These are the more remarkable, as they are almost identical with those since put forth by Liebig. Dr. Billing therefore seems to have anticipated the German professor:

"The ANIMAL HEAT has been accounted for in different ways by several ingenious physiologists: from the aggregate of their opinions and experiments I deduce, that *heat is extricated all over the frame;* in the *capillaries*, by the *action* of the *nerves* during the *change* of the *blood* from *scarlet* arterial to *purple* venous; and *also* whilst it is changing *in the lungs* from *purple* to *scarlet.*"

"There is a perpetual *deposition*, by the capillary system, of *new matter*, and decomposition of the *old*, all over the frame, influenced by the nerves: in other words, the galvanoid or electroid influence of the nerves, which occasions these depositions and decompositions, keeps up a slow combustion. In this decomposition there is a continual disengagement of carbon, which mixes with the blood returning to the heart at the time it changes from scarlet to purple; this *decomposition* being effected by the *agency* of the *nerves*, produces constant extrication of caloric: again, in the lungs that carbon is thrown off and united with oxygen, during which *caloric* is again *set free;* so that we have in the LUNGS a CHARCOAL FIRE constantly burning, and in the OTHER PARTS a WOOD FIRE, the one producing *carbonic acid gas*, the other *carbon;* the *food supplying*, through the circulation, the vegetable or animal *fuel* from which the *charcoal* is *prepared* that is *burned* in the *lungs.*" (pp. 42, 43.)

The following short extracts from the section upon inflammation will serve to give some idea of our author's views upon that subject, and the influence which the nerves exercise upon the contractile power of the capillaries:

"The action of the arteries is also acknowledged to be contraction, whether considered muscular or not; but there is some difference of opinion as to the degree of action of the arteries in inflamed parts. It is very common to say, that in INFLAMMATION there is an increase of arterial action; but a con-

sideration of the phenomena, and of the nature of arterial action, will show that in inflamed parts the capillary arteries are weaker in their action; that there is diminished arterial action, for the action of arteries is contraction: now the arteries in inflamed parts are evidently larger than before—less contracted, that is, acting less."

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"Let us see how far we can go in proving that the *capillaries depend* upon *nervous influence* for their contractile action. Blushing is, perhaps, the most unequivocal proof that an alteration in the nerves is the cause of sudden dilatation of the capillaries. It is not the action of the heart alone which causes the partial blush; for, first, the heart often acts stronger without causing blushing, and, next, the blush is partial; whereas, when the mere action of the heart causes increased redness of the skin, as from exercise, it is not partial, as it is in blushing from mental emotion. And this, which is sudden weakness of the capillaries, has been commonly attributed to the 'increased arterial action,' and 'determination to the face.' I attribute this giving way of the capillaries to derivation of the nervous influence, which, being directed to or expended in the brain more freely by mental emotion, robs, for the moment, the capillaries of the face of their energy."

"What is called the blush of inflammation may be brought on in a part by reiterated strong electric sparks. It may be said that the effect of the electricity is on the tissue of the capillaries; but the first effect produced is pain, showing that the operation of the electricity commences on the nerves, sensitive as well as organic." (pp. 44, 49.)

The whole of his remarks upon the subject of inflammation, with the treatment of wounds, ulcers, and suppurating surfaces, are highly interesting, and, if carefully studied and stored up in the memory, will be found to be of immense advantage, not only to the student, but to the practitioner of many years' standing; for, in the language of the author,

"Many persons of great experience practise well empirically without much brains or reasoning; but he who begins upon principle, and then profits by experience, must become a much more skilful practitioner. How many persons apply a poultice to an ulcer with a tolerable certainty of improving it, without ever knowing or caring for the rationale of the effect."

As we have already nearly reached the limits assigned us, we must content ourselves with giving a few more extracts, selected almost at random—a mode of selection, from pages so interesting, as good, perhaps, as any other. The following remarks upon rheumatism will be read with interest:

"There are forms of rheumatism which it is extremely difficult, if at all possible, to distinguish from neuralgia; so direct is the connexion between the nerves and rheumatic disease. Indeed, I believe that all rheumatism commences with lesion of the nerves of the part: to which it may be objected that in *acute* rheumatism the other tissues are red and swollen. Even so; the process of inflammation begins by functional, if with no physical derangement, in the nerves, and spreads, owing to the diffusion of the nervous tissue, through the cellular tissue of the skin, muscles, sheaths of tendons, pericardium, &c. This affords an explanation of the phenomena, and of the utility of the remedies employed: many cases are curable by tonics, while most are relievable at all stages by narcotics; some imperatively requiring bleeding, a few injured by it: the perception of which last-mentioned fact was the reason that bleeding was quite out of fashion at Edinburgh when I visited it; so much so, that patients with their wrists and ankles swollen, and the chest oppressed, were not bled, because, as was truly asserted, bleeding *sometimes* caused the convalescence to be tedious. No doubt this happened when discrimination was not used. All my life I have seen men prescribing for disease by name: one man bleeds always in acute rhumatism, another never, or scarcely ever; one gives emetics and bark in all cases, another mercury, another colchicum, &c.; one man finds digitalis of great use in rheumatism, another stares at his assertion.

"From what has been already said upon the subject of inflammation, it may be deduced why and where these remedies suit; why, for example, digitalis and bleeding will procure sleep better than opium when the brain is plethoric and feverish; and, on the other hand, that wine and other products of fermentation will procure sleep better than even opium when there is a state of inanition.

"I must beg pardon of my senior readers whilst I set down a few directions for the juniors, in further explanation.

"Do not neglect to bleed in acute rheumatism (rheumatic fever) if, with a plethoric appearance, you have the external redness and tenderness, combined with oppression at the

chest, indicating tendency to pericarditis, or if there be symptoms of meningitis.

"Do not bleed in acute rheumatism, unless emetics and other treatment have failed, if there be *only external* pain and swelling, and a patient not strong, lest you have a *slow convalescence*, as any one may expect if a patient be bled unnecessarily.

"But, on the other hand, always have the fear of internal inflammation, 'metastasis,' in your mind's eye, or you may have *no convalescence* at all, but death for want of bleeding. If your patient gets severe pericarditis, you will either have death soon with fever, as I have known happen from neglect of bleeding, or a lingering death from adhesions and enlargement of the heart (such as may be seen on the shelves of every maseum), with dropsy.

"Never neglect, in acute rheumatism, to examine the chest, and inquire about it; for the patient will scarcely ever complain of it, even when affected, in consequence of his attention being drawn off to the severe pain in the limbs and muscles of the trunk. Conviction has been forced upon the medical world, that in rheumatic fever the heart uniformly participates in the disease, though 'metastasis' to the heart is not said to have taken place until symptoms of serious lesion of the organ are evinced; but the peculiar pulse of rheumatic fever declares the state of the organ. It is irritated sympathetically as in other acute diseases, hence the pulse is more frequent; but being itself affected by the rheumatism of its fibro-serous tissue, it is weakened in its action; hence it does not empty itself, causing the full soft pulse—full, because there is much blood, and soft, because the action is not energetic.

"In referring rheumatic inflammation to the nerves, I have only gone a step further than some who call certain kinds of it neuralgia. The exciting cause of rheumatism is usually cold and damp together, not either alone; intense cold will seldom produce rheumatism if the atmosphere be dry; but if the skin have been perspiring previously, so that it or the inner garment is damp, rheumatism results; warm damp does not produce it. A cold fog or rain will produce the effect, though the person has not been previously perspiring. Moisture appears to exercise a peculiar effect on the electric state of the nerves; but if the parts be warm, that is counteracted; the cold and damp together are noxiously sedative. Every person can recollect illustrations. The softer and more vascular tissues are not so easily contracted to a noxious degree

as the dense fibrous tissue; hence the latter is the first to suffer from the sedative damp and cold." (pp. 251—254).

Erysipelas, he thinks, is seated in the same tissue.

"Erysipelas also commences in the nerves. Cold air does not produce the inflammation, unless the part have been previously warm and damp, and then a continued stream of cold air will produce erysipelas. Slight erysipelas of the face or ear is frequently produced in this way, and called by the peasants a blight or blast, &c." (p. 254.)

After some remarks upon the treatment of this disease, the author sums up the whole matter in these words:

"Here, in two words, is the epitome of the treatment of erysipelas—emetics and tonics. Tartar emetic, to check the inflammation, which being one of a debilitated diathesis, though benefitted by leeching or bleeding at the moment, much evacuation will even increase the tendency of the disease to return, as is known by experience. Tonics, including calomel, take away that tendency or disposition of the disease to return; and the latter by its tonic effect upon the liver, promotes the digestion and consequently the strength of the patient, who must be well nourished after the paroxysm. Practitioners well know that it is the nature of erysipelas to return periodically like gout, or even more frequently, and thus undermine the constitution. I can assure them from experience, that the plan I have laid down, persevered in, and modified according to circumstances, will eradicate it." (pp. 258, 259.)

We cannot close our notice without requesting all, who have an opportunity, to read this work carefully, and we doubt not they will consider themselves well paid for their trouble. The book, we admit, has faults both in the style and matter, but its good qualities so far out-number them, that we feel ourselves fully justified in recommending it to the profession. Works of this character are calculated to inspire the members of the profession with more confidence in the principles of the healing art, and to check that spirit of *quackery* which at this time seems to pervade the whole civilized world—if we may be allowed to judge from the vast amount of patent medicines and secret nostrums which are

manufactured and consumed. That quackery must exist so long as disease exists, there is much reason to believe; but, at the same time, much may be done to check it by a proper spirit of determination on the part of physicians to resist its progress. The use of secret remedies does not meet that opposition from the profession which a just regard for its own honor and the good of mankind require. We should make it a rule never to countenance their exhibition in any manner or form—and a general determination of this kind would be productive of much good, and lessen this crying evil. How often do we witness the names of persons who write themselves "M.D." signed to certificates lauding the efficacy of some patent mixture of whose ingredients they are ignorant. And it is even said, we know not with what truth, that a professor in an American medical school has recently been selling a secret remedy. It is hoped, for the honor of the profession, that this statement is not true.* Physicians are often deterred, by false notions of delicacy and friendship, from opposing the use of these remedies—one dislikes to injure the feelings of a friend, who assures him that *this* or *that* is an excellent article and has done wonders in the way of cure—but the most frequent cause, perhaps, of this apathy, is their regard for the apothecaries with whom they are acquainted, and who have large amounts of these articles for sale. Such we know to be the case in the country, and have reason to believe it to be the case in the cities also. This spirit, though originating in the best feelings of our nature, should be thrown aside when brought in competition with the general welfare; and the profession should come up as one man, and at all times and on every occasion condemn quackery in every form.

R. H.

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*It is too true. He holds an important chair in a Kentucky School of Medicine.—C.

ART. VII.—*De Voce, Lingua, Respiratione, Deglutitione Observationes quædam.* Dissertatio Inauguralis Physiologica, quam ex auctoritate et consensu gratiosi Medicorum Ordinis in alma litterarum Universitate Fredericia Gulielmia Rhenana, ad Doctoris Medicinæ et Chirurgiæ gradum rite assequendum, scripsit et die v. Aprilis anni MDCCCXXXXI publice defendit CAROLUS ERNESTUS NOEGGERATH, Rhenano-Borussus. Cum tabula lithographica. Bonnæ, typis Caroli Georgii, MDCCCXLI.

Observations on Voice, Speech, Respiration, and Deglutition: being an Inaugural Dissertation presented to the Medical Faculty of the Frederic-William University at Bonn, on the 5th of April, 1841, for the Degree of Doctor of Medicine and Surgery. By CHARLES ERNEST NOEGGERATH. With a lithograph. Bonn: pp. 14, 4to. Charles George: 1841.

The observations and experiments detailed in this paper, were made upon an individual with a fistulous opening in the anterior part of the neck. The author remarks that although wounds in this region are not uncommon (as in attempts at suicide) yet very little of benefit to physiology has resulted from them, owing either to the sudden death of the person, or to the immediate closure of the wound by the surgeon, and its subsequent complete cicatrization. It is true, some examples of fistula are on record: thus Mayo relates two, Dupuytren a third, and our author quotes one from Cornelius Trioen and gives another in the course of his observations from Froirep's *Notizen* for 1831. But in all these cases, except the last, the fistula was below the epiglottis.

In our notice of Dr. Noeggerath's Thesis, we shall follow the order he has laid down. As the case of injury is altogether a singular one we shall present his account of it with but little alteration.

The individual, Christian Mueller, is a native of Heimbach, in Prussia, and was born in 1799. At the age of 16 he turned soldier. He seems to have been a pretty quarrelsome

fellow, and as brave as quarrelsome, for he was engaged in several duels, which were generally decided by the small sword. He was frequently wounded in these engagements, and in one of them received a thrust in the chest which injured the lung, and confined him 66 days. At length, after various fortunes, he found himself in his 30th year, at the head of a troop of horse in Africa. In the expedition against Constantine, his horse was struck by a bullet and fell with him. Whilst lying on the ground, Mueller received a cut from the yatagan of an Arab, which pierced his silk cravat, and the collar of his shirt, and divided the pharynx above the epiglottis and thyroid cartilage, leaving, however, the posterior wall untouched. Blood flowed profusely, which he checked in some measure by filling the wound with the divided shirt; his strength failed rapidly and he had vomitings of blood, &c. At the moment he was wounded he felt no pain, nor until some minutes had elapsed, when he experienced severe burning pain and intolerable thirst. After the wound was dressed, he was carried to Algiers in a state of insensibility; traumatic delirium then came on, and continued for seventeen days, during which time he took immense quantities of opium, enough to kill a horse, as the surgeons remarked, all without effect. The greater part, it was supposed, passed through the wound. After this he was near starving to death, as food of all kinds passed through the fistulous opening of the throat. At length, however, after suffering all the tortures of Tantalus, and after the surgeons had tried in vain to close the fistula by plates of silver and lead, the patient himself adapted to the opening a piece of leather covered with linen, which by its elasticity supplied, in some measure, the divided parts. He left the hospital on the 27th day, at first quite weak, but was by and by able to resume his military duties. He remained in Africa two years longer, and subsequently went to Paris where Jobert cured him of hydrocele.

Mueller is now (at the time of the experiments) 41 years old, five feet seven inches high, and well formed. He stoops some in walking, and shows some lassitude, but can make a

long journey without much fatigue. His chest is broad, and sounds well on ausculting and percussing it. Comparing his present state with that previous to the wound, he says he does not feel so vigorous, that his voice is not so strong, and that he does not, as formerly, require occasional bleeding on account of constriction and oppression of the chest.

The aperture presents the following appearances: When he breaths quietly, with the neck extended naturally, the aperture is one inch ten lines and a half long, and one inch and one line broad. In the superior part of the opening and anteriorly, the root of the tongue is seen, covered apparently with granulations; between this and the posterior part of the fauces, a little above, are placed the posterior half-arches of the palate, the uvula depending from their apex. Internally is seen the epiglottis nine lines long, erect, but turned slightly to the left; the vessels of the surface are injected, so that it is a little redder than natural, but less so than the posterior wall of the pharynx. It is generally contracted, owing to the flow of mucus over the surface; the perichondrium and mucous coat a little thicker than natural. In the lower margin of the opening a hard tubercle can be felt, formed by the base of the os hyoides, which is closely united to the thyroid cartilage. The greater cornua of the os hyoides are seen at the sides. The space between the thyroid and cricoid is natural, but the whole larynx is so much depressed that the superior part of the cricoid is only seven lines above the sternum. The parts injured, besides the common integuments, are the platysma myoid muscle and the subcutaneous nerves, the mylo-hyoid, genio-hyoid, and part of the hyoglossus. The ranine artery was doubtless divided, from the profuse hemorrhage at the time of the injury. The sensibility of the injured parts appears very much diminished, as they can be touched with the finger, and the individual himself cleanses them with lint, without the production of pain. Strong pressure finally excites vomiting. The difference, however slight, in the temperature of ingested liquids, is perceived. The skin of the infra-mental region exhibited so little sensibility

that Prof. Muller thought a portion of it might be removed without the patient's feeling it.

We do not know that the experiments instituted by Dr. Noeggerath present any new views on the subjects to which they refer; but they confirm certain theories and notions, and effectually subvert others that are strenuously upheld by certain physiologists. We shall present a pretty full account of them.

I. *Observations and Experiments on the Voice.* When the fistula was open Mueller's voice, subraucous, could be distinctly heard, showing that the voice exists deep in the pharynx and in the rima glottidis. The glottis itself, and the ligaments, owing to their anatomical seat, could scarcely be seen. Nevertheless professor Mayer declared positively that he looked into the glottis itself, during the production of voice, and observed the erection of the arytenoid cartilages, and the tension and tremulation of the vocal ligaments, though the tension could not be distinguished clearly. This accords with the experiments of sundry physiologists on artificial larynges.

When the fistula was closed, the voice was stronger; showing that the cavity of the pharynx, mouth, nose and the adjacent cavities increase the voice not a little. This is easily explained upon physical laws, supposing the effect of the superior parts to be similar to that of a tube; for Biot has shown that hollow but dense conductors increase the force of sounds by hindering the dissipation of the rays. The action of the stethscope illustrates the same principle. This was well understood by Haller and Santorinus.

When the fistula was open the voice was less sonorous. This agrees with Prof. Müller's conjecture, that the circumstance of the vocal tube's having a double orifice, the oral and nasal, does not affect the height of the notes any more than a simple tube; it changes their character by resonance, the voice being of the same altitude, but rendered more sonorous.

These last observations are confirmed by the experiments of Bennati, Savart, and Cagniard la Tour, on one Philibert Her-

colot, who wounded himself in the neck with a knife; the incision, at first four inches in extent, was reduced in three months to a fistula of two or three lines between the thyroid cartilage and the hyoid bone.

When very loud sounds were uttered, the epiglottis was inclined forwards, turning a little from the lateral into a more horizontal position; at the same time it seemed more tense, though a tremor was perceptible by the finger. This confirms an observation of Mayer. "The ancients," he says, "aptly compared the epiglottis to an ivy leaf. By rolling back on itself, it receives the voice coming from the rima glottidis into a very narrow channel, collects the various rays of sound, dispersing them toward the middle of the canal. This infraction is the greater as the epiglottis is more extended. On the other hand, it continues erect in the hoarser sounds, and does not prevent their dissipation."

Touching the epiglottis while the man was speaking, rendered the voice weaker, deeper and hoarser, owing doubtless to the abnormal plane and impeded vibrations of the epiglottis. This seems to confirm Müller's views of the uses of this structure, and those of Magendie drawn from Grenié's experiments.

When he uttered very loud sounds, and at the same time raised the voice, a vehement commotion of the air was distinctly perceived by the finger inserted in the fistula. This again accords with the observations of Liscovius, Lehfeldt, and Müller, from which it appears that an increase of the force of the current of air, other things being equal, raises the pitch both of the natural and falsetto notes.

He sang well the whole scale of sounds whether the fistula was open or closed; from which it follows that they are formed above the pharnyx. According to Rudolphi singing is performed by the larynx alone, as seen in birds, and hence such as use the lips and mouth make hissing sounds. In singing the notes were not pleasant and agreeable, and the man was easily fatigued. He says that before being wounded, he

could not utter higher notes than he now does. In the case of Hercolot, previously mentioned, it was otherwise.

II. *Observations and Experiments on Speech.* When the fistula was covered, Mueller could utter very distinctly all the letters and any name whatever, in a clear voice. Nor was there much alteration of voice, whether the aperture was closed by wood, glass, leather, or a metallic substance. When the fistula was open he could utter distinctly but one vowel letter, *a* with a slight admixture of *e*. He sounded *i* least of all. Hence it follows that in forming the vowels, without some greater difference of sound in the larynx, the greatest and most important differences are produced in the pharynx and cavity of the mouth. Müller, indeed, asserts that in pronouncing the vowels either aloud or in a whisper, the sound is formed by the larynx but is changed in the mouth to *a*, *e*, *i*, *o*, *u*. Is not this sound, though, called in question by Müller, from its quality, that of *a* or its analogue? and does it not seem that the infantile names of parents—mama, papa, *vater*, *pater*, father—in which the *a* constantly prevails in all nations, are derived from the period of life, in which the action of the mouth and palate is imperfect?

When the patient tried to pronounce *a*, *o* and *u*, the epiglottis remained plane, but in pronouncing *e* and *i* it was turned a little on itself.

Of the consonants, he could pronounce very well *h*, and when he laughed, *r*. This proves that *r* belongs to the glottis. Most physiologists are silent concerning this letter. According to Haller it is produced mainly by the tongue; Lenhossek expresses the same opinion. Müller speaks of two r's, pure or lingual, and palatal. Mayer, however, correctly says: "R belongs to the glottis, and is produced partly by the vibration of the arytenoid cartilages and partly by that of the glottis: it is the sound singers make in producing the shake (*tremulatio*)."

III. *Observations and Experiments on respiration.* In respiring with the fistula open, fatigue was soon induced; and respiration was three times more frequent than when the opening

was closed, it being then twenty to the minute. This fatigue and increased frequency of respiration, arose, Noeggerath thinks, from two causes: 1. That the air thus introduced was colder than if it had passed through the buccal and nasal cavities, and hence acted as an irritant: 2. That by its quantity, and perhaps also by its quality, it was little suited to the purposes of respiration. As it respects quantity, it is observed that if one breathes through the mouth alone, the nose being closed, he soon becomes fatigued, and either dilates the mouth still more, or breathes more frequently in the same space of time. The air, moreover, before entering the larynx, is changed in other respects, besides that of heat, by contact with the mucous membranes. At all events it is evident that the watery particles are increased by its passing through the cavities of the nose and mouth, and that small particles of dust mechanically admixed are thus removed. In inspiration the larynx ascended, in expiration it descended. When the breath was held a long time, the epiglottis fell down upon the larynx, as if to close it mechanically.

Liscovius contends that the epiglottis, when at rest, holds the mean between the highest and lowest position. This is not confirmed by Mueller's case; in him, when the epiglottis was quiescent it was much more raised; nevertheless, the position of the hyoid bone should be considered, as upon it depends that of the epiglottis.

According to Mayo, the larynx has nothing to do with *snoring*, and most physiologists, like Lenhossek, attribute it to the vibration of the velum. Yet in the wounded man, when the fistula was open, an obscure stertorous noise was produced, showing that the larynx was engaged in it.

IV. The last experiments and observations refer to *deglutition*

The wound being covered with a bandage, liquids could be swallowed easily, solid food a little less so, and dry substances, as bread, better than those saturated with liquids, *e. g.* bread steeped in coffee. This is what occurs in all persons, except where there is idiosyncrasy or disease.

Frequently in swallowing liquids, especially a large quanti-

ty at once, the fistula being open, cough was produced by a portion falling into the glottis. This seemed to be owing to the fact that the glottis, on account of the muscles being cut, was not sufficiently raised, and was obliquely covered by the epiglottis.

In the effort to swallow, the larynx was drawn up, and the pharynx contracted by the palato-pharyngeus, so that the epiglottis was depressed upon the larynx. This happened before the descent of the bolus, which, therefore, does not mechanically depress the epiglottis.

When the fistula was uncovered, the saliva constantly flowed over the posterior parietes of the pharynx; whether more than when closed, it is impossible to say, although such seemed to be the case. When the covering was removed, the flow of saliva increased, the colder air in the larynx irritating the organs by contact or by sympathy. Rudolphie holds the opinion that the saliva is constantly secreted, but Muller says that when the muscles concerned in mastication, and the tongue, are completely at rest, and there is no unusual stimulus acting upon the nerves, the secretion ceases, whilst it is excited under the opposite circumstances. In the present case, a fistula of four years' standing could hardly be regarded as an unwonted nervous irritant, nor could the salivary flux depend upon injury of the salivary organs.

It was only occasionally that the patient could swallow a bolus when the fistula was open. Dr. N. attempted to close it by plates of glass, varying in size and form; but without success. An elastic body was requisite, which, insinuating itself into the wound, and imitating the motions of the divided parts, impeded neither the movements of the fauces nor larynx.

Lastly, some experiments on *taste* were instituted by Dr. Kobelt. When tincture of colocynth was applied to the epiglottis and pharynx, no sensation followed; when it was applied to the surface of the velum and uvula, a bitter taste was by and by perceived. But as the velum is touched by the root of the tongue every moment, the experimenter

did not feel warranted in making a conjecture as to the patient's sense of taste.

We have thus given a rapid and free translation of the most important facts in Dr. Noeggerath's thesis; we leave the reader to examine, where the author has not done it, how far they agree or disagree with received physiological notions. When we say *rapid* translation, we do not mean to give the impression that it was quite as easy as writing one's vernacular. In fact, it is in some places a decidedly crabbed specimen of latinity, notwithstanding its production at one of the most celebrated Prussian and European Universities. It contains numerous errors of the press, and some egregious ones, besides, of a kind that cannot be attributed to printers and careless proof-readers. For example, we mistake very much if *vulnus* forms a genitive plural, *vulnerorum;* yet this is the fourth word in the thesis. Again, the author construes *sonus* both in the second and fourth declensions, more frequently, perhaps, in the latter, yet it rightfully belongs to the second, and to the second only. This mistake we think the less pardonable, as it was at first the source of some perplexity; and either of them is richly deserving of the birch. We shall not mention any others, and we speak of these with the modesty that should characterize one who acquired his smattering of Latin, not in college halls and bowers, but in the silence and solitude of his own chamber—one not too luxuriously furnished, but which looked forth on as fair a prospect as ever met the gaze of mortal man.

Dr. Noeggerath has, we believe, taken up his residence at Mills' Point, in this State. We trust that his new home will prove a pleasant one, that his success will be commensurate with his undoubted learning and skill, and that his most glowing dreams, such as he may have cherished on the banks of the "wide and winding Rhine," will be more than realized on the shores of the Mississippi.

C.

ART. VIII. *A Treatise on Food and Diet, with Observations on the Dietetical Regimen suited for the Disordered States of the Digestive Organs; with an account of the Dietaries of some of the principal Metropolitan and other establishments for Paupers, Lunatics, Criminals, Children, the Sick, &c.* By JONATHAN PERIERA, M. D. F. R. S., and L. S. &c. &c. Edited by CHARLES A. LEE, M. D. New York: J. and H. Langley. 1843.

In a former article we gave some account of the first two chapters of this work, which treat of *the elements of food*, and *alimentary principles*. We propose now completing our notice of it, by a brief survey of the remaining topics.

All the articles which nourish man are derived from the organic kingdom. He requires a mixed diet of animal and vegetable food. This is proved by the structure of his teeth and of the entire human digestive apparatus, as well as by the fact that the most perfect development and vigor of mind and body are displayed by the nations in which such a diet prevails. The long catalogue of these articles is given by Pereira in his third chapter, on *compound aliments*, which embraces, necessarily, a multitude of details, only a few of which we shall be able to copy; and in doing this we shall endeavor to select such as are most recommended by novelty, or their practical bearing. In connexion with the nutritive qualities of bones, he relates the following incidents, which are instructive as well as amusing:

"At the commencement of the French revolution, the attention of every one in France was directed to the improvement of the food for the poor and for the army. All were agreed in employing for this purpose bones. The government, led away by the enthusiastic reports of scientific men, (Proust, d'Arcet, Pelletier, Cadet de Vaux, &c.,) issued a public instruction, declaring that "a bone is a tablet of soup formed by nature: a pound of bone gives as much soup as six pounds of meat: bone soup, in a dietetical point of view, is preferable to meat soup." It need scarcely be stated that these inflated expressions were gross exaggerations. It is ob-

vious, as Magendie has justly observed, that in this hyperbolic language the terms *jelly* (gelatine) and *nutritive matter* were considered synonymous. The favorable report made by the Faculty of Medicine, on the nutritive and easily digestible properties of gelatine, induced the French *administration des hospices*, in 1824, to introduce its employment into the public hospitals of Paris; and for this purpose, in many of these establishments d'Arcet's apparatus for obtaining a solution of gelatine from bones by the aid of steam, was fitted up. In most, if not in all, its employment was, however, soon abandoned."

His remarks on milk, as an article of diet, will be read with interest. It may not be known to every one that tubercular phthisis frequently affects cows, and that the milk of such animals is degenerated from its healthy state. We have witnessed this disease in a number of cows which were imported from Ireland, and in some assured ourselves of its character by *post mortem* examinations. These revealed the most extensive deposits of tuberculous matter and general disorganization of the lungs:

"The quality of the milk is also affected by the state of health of the female supplying it. I have already mentioned the effect of tubercular disease of the lungs in increasing the quantity of phosphate of lime in the milk. This subject is one of the greatest moment, not only in reference to the frequency of disease in cows, and, therefore, to the possible morbific character of their milk, but also in reference to the milk of the human subject. I think, with these facts before us, it would be highly improper to allow a female, with any trace or suspicion of tuberculous disease, to suckle. Not that a few grains, more or less, of phosphate of lime in the milk, can probably do any injury to the child; but the fact once established, that the milk may be thus altered by disease, leads to the suspicion that some other substances, not yet recognized by their physical or chemical characters, may be in the milk of diseased nurses, and which may have an injurious influence on the child; and the suspicion does not confine itself to those affected with tuberculous diseases: other hereditary or constitutional affections may also be attended with altered conditions of the milk. This suspicion is strengthened by the common observation that the milk of different nurses

does not equally suit the same child; nor that of the same nurse, different children."

The following statistics of the editor, Dr. Lee, belong rather to political economy than to medicine, but we are sure our readers will be obliged to us for the quotation of them:

"Indian corn and potatoes, indigenous to our country, have contributed much to promote the health and longevity of mankind in both hemispheres. As they are among the cheapest, so also are they among the most wholesome of all articles of food employed by man. Good corn weighs about 60 lbs. to the bushel, and costs at present 56 cents per bushel, or nearly one cent per pound. Now a pound of corn, when cooked, makes from two and a half to three and a half pounds of food, and this will suffice for the daily support of a laboring man. If an individual could be supported on this alone, his annual expense for food would be but $3 65, or say $15 to a family of five. The average cost of potatoes may be put at about half a cent a pound, and allowing five pounds per day to an adult individual, the expense will be about $9 a year; or for a family of five, (reckoning them at three and a half adults,) about $30. When we consider that it is not unusual for land to yield 100 bushels of corn to the acre, and 30 tons, or 67,200 pounds of potatoes to the acre, we may form some estimate of the population which this country is capable of supporting from the produce of the soil."

Have any of our readers lived to this time without being acquainted with the surpassing excellences of the *corn pudding?* We have supposed such a thing possible, and here pause in our grave task of reviewing this instructive book, to exhort such as are yet strangers to the merits of this most delicious of puddings, to procure the recipe for making it before the next "roasting ear" season. The corn being well grated, is mixed with butter, eggs and milk, seasoned with salt and pepper, and thoroughly baked. Thus prepared, no dyspeptic need fear it, and no man who is not indifferent to the good things of this world will sit down to dinner without one of these puddings on his table, during the season of young corn.

Our author esteems potatoes highly for their antiscorbutic properties. In prisons, where men are confined to few arti-

cles of food, scurvy frequently breaks out. It has been found that the disease is prevented by adding a few pounds of these tubers to the weekly rations of the convicts. He makes the following statement in regard to the effect of freezing upon the potato, which, we dare say, will be new to most of our readers:

"The influence of a freezing temperature on the potato is remarkable. The effect is mechanical; the watery juice contained in the cells and intercellular spaces, expands in the act of freezing, and by this means ruptures and isolates the cells, and destroys the organization of the tuber. It does not appear, however, that any chemical change is produced in the first instance either on the starch or the other constituents, for Girardin obtained the same proportions of water, fecula, woody fibre, albumen, sugar, and saline matters, from frosted, as from unfrosted potatoes. But it is obvious that when the organization and life of the potato is destroyed, decomposition must soon succeed; though even then the fecula or starch seems but little altered."

The reader will find every thing in this part of Dr. Pereira's work that he can wish to know, concerning "solid foods, drinks, and condiments." We only select a remark as we pass along, which may serve as a specimen. Of bread he says:

"Notwithstanding that bread is denominated the *staff of life*, alone it does not appear to be capable of supporting prolonged human existence. Boussingault came to this conclusion from observing the small quantity of nitrogen which it contains; and the Reports of the Inspectors of Prisons, on the effects of a diet of bread and water, favor this notion."

Meat alone, on the contrary, does appear to be sufficient. Dr. Lee, in his appendix to this work, cites some facts going to establish it. Thus:

"Sir Francis Head relates some interesting particulars respecting the Gauchos, inhabitants of the Pampas, in South America, which have an important bearing on this question. After stating that they often continue on horseback day after day, galloping over their boundless plains, under a burning sun, and performing labors almost of an incredible description, he remarks: 'As the constant food of the Gauchos is *beef and*

water, his constitution is so strong, that he is able to endure great fatigue, and the distances he will ride, and the number of hours he will remain on horseback, would hardly be credited.' Sir Francis Head also brings his own personal experience in proof of the correctness of the above statement.

"'When I first crossed the Pampas,' he remarks, 'I went with a carriage, and although I had been accustomed to riding all my life, I could not at all ride with the Peons, (drivers of the carriage,) and after galloping five or six hours, was obliged to get into the carriage; but after I had been riding for three or four months, and had lived upon beef and water, I found myself in a certain condition, which I can only describe by saying that I felt no exertion could kill me. For a week I could daily be upon my horse before sunrise, could ride till two or three hours after sunset, and have really tired out ten or twelve horses. This will explain the immense distances which people in South America are said to ride, which I am confident could only be done on beef and water.' "—*Rough Notes, &c., by Sir Francis Head*, p. 29.)

This does not harmonize exactly with the assertion we made at the beginning of this article, on the authority of physiologists, that "the most perfect physical development, and the greatest intellectual vigor are to be found among those races in which a mixed diet is the prevalent habit." Still there can be no question of the truth of this assertion. The peculiar habits of these Tartars of South America render the exclusive diet of animal food congenial to their systems, but if adopted generally by men, it would prove ruinous to health and strength of constitution. It is only persons of the most laborious habits who can with impunity partake largely in hot weather of animal food.

In the second part of his work, Dr. Pereira treats of *Diet*—the digestibility and nutritive qualities of foods, times of eating, dietaries, and dietetical regimen for the sick.

On the question of repose, or activity after eating, he expresses the following opinion:

"These and many other analogous facts are satisfactory to my mind that repose is natural to animals after a hearty meal: and that the practice of taking the *siesta*, or after dinner sleep, is not injurious, if moderately indulged in. It should, how-

ever, be followed by moderate exercise. But there are exceptions to these statements, and I have met with some few persons who have asserted that they find advantage in using exercise immediately after dinner; but these form exceptions to the general rule. After the earlier and lighter meals of the day, breakfast or luncheon, quietude or repose is neither desired nor required."

Of the times of eating, he says:

"These facts show the importance of breakfasting soon after rising and dressing; at least in many cases. I am fully aware that there are numerous exceptions to this. Some persons not only suffer no injury from, but actually appear to be benefited by, active exercise taken before breakfast; its effect being with them to create or augment the appetite. But in others the effects are those which I have already stated. I am satisfied, from repeated observation, that in children disposed to spasmodic and other brain diseases, the practice of making them attend school for two hours before breakfast is injurious; and I fully agree, therefore, with Dr. Combe, that in 'boarding-schools for the young and growing, who require plenty of sustenance, and are often obliged to rise early, an early breakfast is almost an indispensible condition of health.' Epileptics, especially those disposed to morning attacks, should invariably breakfast soon after rising. I think I have seen the fits brought on by neglecting this precaution. For travellers a light breakfast before starting is a great protection 'against colds and subsequent fatigue or exhaustion.' Medical men and others should not, if possible, expose themselves to the influence of infectious or contagious disorders, as fevers, &c., before breakfast, as the danger of infection then is greatly enhanced. For the same reason the practice of making post-mortem examinations and dissections before breakfast is to be condemned."

Concerning *dietaries for children* he has the following sensible and pleasant remarks:

"In children the function of nutrition is more active than in adults. They have not merely to repair the daily waste, that is, to renovate their tissues, but to grow. Their functions of circulation and respiration are, therefore, more active than in after life; and they require food; that is, substances to sup-

port the process of respiration, to be administered at shorter intervals."

"Children, for the most part, evince an almost instinctive fondness for sugar, which is supplied to them in their mother's milk. This perhaps is to be explained by the fact that it is an element of respiration, and, therefore, is more necessary for them than adults, on account of the greater activity of their function of respiration. But this fondness for sugar is by no means universal among children. In very cold countries, substances richer in carbon and hydrogen, and, therefore, yielding more heat by combustion, are preferred. 'In one of those late extravagant voyages to discover a northwest passage,' says Sir Anthony Carlisle, 'the most northern race of mankind were found to be unacquainted with the taste of sweets, and their infants made very wry faces, and sputtered out sugar with disgust; but the little urchins grinned with ecstacy at the sight of a bit of whale's blubber.'

The natural appetite I believe to be an index of the wants of the system; and ought, therefore, to be consulted, to a certain extent, in the dieting of children; and I believe that parents commit a gross error who totally disregard it. I have seen children refused vegetable food, though they ardently desired it, because they would not eat what their nurses supposed to be the proper proportion of animal food; and, on the other hand, I have known children denied animal food, on the mistaken notion that it would be injurious to them, though the digestive functions were active, and the appetite for meat most keen."

"Children may be over fed or under fed. Instances of the former, however, are comparatively rare. Of the ill consequences of defective nutriment we have, unfortunately, too many instances continually presented to our notice. Irritable bowels or diarrhœa, tumid abdomen, mesenteric disease, wasting, and fever, are the ordinary and obvious effects. They frequently follow the continued use of pea-soup and potato-stews—dishes which are in common use at poor-houses and other establishments for pauper children. Scrofulous and strumous diseases, marasmus, rickets, distortions, and pot bellies, so commonly met with among children of the poor, are referrible, in part, at least, to food, defective either in quantity or quality, or perhaps in both. I think it will be found that more than two-thirds of pauper children are strumous. They derive this condition in part, perhaps, from nereditary tendency; but partly also, as I believe, from defective nutriment,. To the same cause, also, is ascribable their

inferior developement. If the children in poor-houses be examined, they will be found, for the most part, smaller and shorter for their age, more frequently distorted, and more readily fatigued, than the children of the middling and higher classes."

The section on *dietaries for the sick* abounds, as does indeed every portion of the work, in details of uncommon interest for the practitioner of medicine. The fever diet, the low diet, the animal diet, the vegetable diet, and all the other modifications demanded in man's aliment by his ever-varying disorders, are here given with all desirable minuteness. On this subject we will give but a single passage, which our author quotes with approbation from Dr. Billing:

"Natural instincts," justly observes Dr. Billing, "are too often thwarted: it is much too common to put patients empirically on low diet; and patients of the higher classes—the better educated—very often put themselves on low diet unnecessarily. So far as we may take natural instinct for a guide," he further observes, "we may assert, that when a patient *can* eat, he may be allowed to do so; for if he has even a slight degree of fever, he *cannot* eat."

The Appendix, by Dr. Lee, supplies the omissions of the author, and adds to the value of the treatise. We take leave of it by again recommending it to those who wish an entertaining volume on a subject which comes home, if not to "the business and bosoms," at least to the "stomachs and interests" of all classes of men. Y.

BIBLIOGRAPHICAL NOTICES.

ART. IX.—*The Anatomy and Surgical Treatment of Abdominal Hernia:* with numerous Plates. By SIR ASTLEY COOPER, Bart., F.R.S., Surgeon to the King, and Consulting Surgeon to Guy's Hospital. From the Second London Edition. By C. ASTON KEY, Senior Surgeon of Guy's Hospital and Lecturer on Surgery. Philadelphia: Lea & Blanchard; pp. 427, large 8vo; 1844.

It would be somewhat late to praise a work which for nearly forty years has ranked among the authorities of the profession, and upon which in part rests the fame of its world-renowned author as a consummate surgeon and anatomist. At the time of its first appearance, in 1804,* it must indeed have been a most remarkable production. The anatomy of hernia was ill understood, or rather was not understood at all, the only author who had made any researches on it being Camper, whose *Icones Herniarum* were published in 1801, after his death. Anatomists had described, what is now known as the external abdominal ring, as being closed behind directly by the peritoneum. Even so late as 1785, Richter, whose work, according to Lawrence, is valuable for its clear narration of symptoms, &c., thus describes it. It was reserved for Cooper to place this important matter in its true light; and the anatomy of the parts, as described by him,

* The work originally consisted of two parts, published at different times. The first part, under the title of "*Anatomy and Surgical Treatment of Inguinal and Crural Hernia*," appeared in 1804; the second, entitled "*Anatomy and Surgical Treatment of Crural and Umbilical Hernia*," was published in 1807. In 1827, the second edition, under the present title, was given to the public by Mr. Key. All these were in folio.

the result of careful and elaborate dissection, is now very generally acknowledged to be correct.

We owe also to Cooper the rule for operating, applicable to every species of hernia, viz: to cut directly upwards in dividing the stricture; a precept which, he tells us, was taught publicly by him as far back as 1792. But we need not enumerate all the improvements introduced by him. We hope every one will provide himself with a copy of the book; and not rest satisfied with the meagre extracts from it to be found in surgical treatises. An attentive perusal of it will give clearer ideas of the subject, than all these together.

The work is essentially practical. The author scarcely quotes the opinion of a single writer, not from a desire to slight or undervalue the labors of any, but because he wished to confine himself to the unequalled stores furnished by the Hospitals of Guy and St. Thomas, and to the observations collected from private practice in the metropolis. Hence he gives no case for the truth of which he cannot vouch. Another reason for this may be found perhaps in the fact that Cooper, like our Physick, was not a man of much learning, or of much reading, but possessed a rare practical sagacity, and a wonderful self-reliance.

The plates of the folio edition are all preserved in this, although of course reduced in size. Great care has been bestowed by the publishers to insure accuracy in this reduction, as well as correctness of the references. The execution of the plates is worthy of all praise.

We may state here, that the same house, Messrs. Lea & Blanchard, have it in contemplation, to republish the other works of Cooper in the same beautiful style. We hope the profession will evince their approbation of this scheme, and their appreciation of the merits of the works, by in the only practicable way.

Cooper, as our readers are aware, died about two years ago at an advanced age. One would suppose that such a man could depart in peace, looking back as he might and seeing his name written in characters of light on some of the brightest pages in the records of surgery. C.

ART. X.—*Human Physiology:* with upwards of three hundred Illustrations. By ROBLEY DUNGLISON, M.D., Professor of the Institutes of Medicine, etc., in Jefferson Medical College, Philadelphia; attending Physician and Lecturer on Clinical Medicine at the Philadelphia Hospital, &c. &c. "Vastissimi studii primas quasi lineas circumscripsi."—Haller. Fifth Edition, greatly modified and improved. 2 vol. 8vo. pp. 648, 656. Philadelphia: Lea & Blanchard, 1844.

Many will be surprised to see a Fifth Edition of this admirable treatise, so quickly succeeding the fourth. But he who makes books, as well as he who reads them, must be no laggard or sluggard, if he expects to keep pace with science, in these times of stirring and active inquiry. With the discoveries of Bell, physiology and anatomy received an impulse which is still felt; and what with the vivisections of Magendie, the experiments of Brodie, Marshal Hall, Grainger, Reid, &c., the investigations of Ehrenberg, Schwann, Müller, Gerber, Mandl, and others with the microscope, we bid fair to discover some of nature's most hidden and recondite mysteries. Such has been the rapid progress of physiology within a short period, that to make his work a fair reflection of the present state of the science, no less than on account of its extensive popularity, Dr. Dunglison has found it necessary to put forth a new edition, with material modifications and additions.

To those who may be unacquainted with the work, we may say that Dr. D. does not belong to the mechanical, chemical, or vital school exclusively; but that, with a discriminating hand, he culls from each and all, making his treatise something very different from what is indicated by its modest motto—not merely the "first lines," but a very excellent and complete digest of the vast subject.

Of the three hundred illustrations, nearly one hundred have been added to this edition. Besides this, most of the old cuts have been retouched, or replaced by superior ones.

C.

SELECTIONS

FROM

AMERICAN AND FOREIGN JOURNALS.

Medicines Administered by the Nose.—Dr. Wolford Nelson reports the following cases in the Boston Medical and Surgical Journal of the 27th March, in which medicines were administered by the nose after the loss of the power of deglutition:

"A stout, plethoric girl was taken with convulsions, shortly after a full meal at supper. The family physician was called in, but the convulsions were so violent, and the jaws so firmly locked, that he could not introduce any medicine into the mouth. Attempts at bleeding were made; frictions, sinapisms, sprinkling of cold water, &c., were used, to no purpose. At 11, P. M., I was called in. Never had I seen a more violent case of hysterical convulsions—the friends apprehended speedy death. Twenty grains of pulv. ipecac. with 1 gr. potassio-tart. ant. were mixed in a spoonful of water. This was poured into the nostrils, and passed down, as was manifest by the action of the throat. Immediately after, ʒss. spt. ammon. arom., undiluted, was sent after the other; this produced a marked uneasiness; sneezing followed, but soon ceased. The fits returned, and the aromatic spirit was repeated, at least ten or a dozen times. The face gradually lost its livid hue, the patient became more tranquil, and in twenty minutes the 'jaw fell,' and copious vomiting of much acid and undigested food followed. The next morning my patient was up and about, to the astonishment of all, and well, save a tenderness in the nose and some heat in the fauces.

"Not long after the occurrence of the preceding case, I was requested to see a fine, and most completely 'spoiled child,' four years old. Speedy vomiting seemed to be indicated; 10 grs. pulv. ip. and gr. i. of tart. ant. were repeatedly forced into the mouth, and as often spurted out in the faces of the assistants—holding the head back, and ample pinching of the nose, notwithstanding. Seeing this, a similar dose was prepared in a spoonful of water, and poured into the nostril. This readily passed into the stomach, maugre the efforts the urchin made to send it whence it came. The medicine had the desired effect, and, I take it, saved the wayward child. After this, the little vixen was ready enough to take medicines in the right way.

"Last summer I was called in haste to a sailor, who had fallen into the river, and had been under water 'upwards of ten minutes,' as affirmed by the captain and by-standers. He had all the appearance of being dead—the face bloated and livid, the mouth filled with froth and mucus. Another practitioner had preceded me, and was industriously occupied in rubbing the body, which was cold and exposed to the air. He was immediately wrapped up in warm blankets, and, under these, dry mustard was abundantly rubbed over the whole surface, while I was busily employed with the spt. ammon. arom., first pouring ʒss. down the nostril, then dipping a quill, saturated with the *aqua ammonia*, and which was thrust down the nose as far as could be reached. This caused some motion—the face became a little florid, a feeble attempt at sneezing was evident—then an attempt to cough, but in a moment after, all was again still; but by persevering in this course for fifteen minutes, the man sneezed forcibly. From this instant it was easy to produce excitement. Thirty grains of pulv. ipecac., mixed with water, were now poured down the nose. In about ten minutes, vomiting occurred; much mucus, and the remains of a half-digested dinner, came up. In one hour he was partly conscious; he was then bled ʒxvi., followed by suitable aperients, &c., and in a few days, to use his own language, he 'would be quite well, if it was not for the infernal burning and itching of the skin [caused by the mustard] and the thump on the head,' for he struck it on a plank while falling into the water.

"A few months since, I was called to a man stated to be dying, from the effects of an extraordinary portion of whiskey he had just taken. He was cold and clammy; the face and the extremities quite blue; mouth filled with froth; breath-

ing nearly suspended, and pulse countless. He had all the appearance of one in *articulo mortis* with Asiatic cholera. Not having a stomach-pump at hand, and not having time to wait for one, as life was nearly gone, 30 grs. of pulv. ipecac. were at once mixed up and poured down the nose, as nothing could be passed through the mouth; and the slight effort to swallow led me to think it was trickling down the throat. Immediately after, ʒss. spt. ammon. aro. was poured into the other nostril; this caused manifest uneasiness, but nothing more. Another portion was administered, which produced some wincing. A long quill, well saturated with the common aqua ammonia, was repeatedly thrust in through the nose. An effort to sneeze, then a cough, and then a good hearty sneeze, assured me that the toper was not entirely gone. Nausea soon became apparent, vomiting followed, and in two hours, the wretched man had knowledge enough to ask where he was, and the next day was sufficiently well to take the temperance pledge.

"An athletic man, raving mad with *delirium tremens*, to whom it was impossible to give any medicine by the mouth, was in two hours in a state of tranquility, having *swallowed* through the nose one grain ext. belladonna, two grains of pulv. ipecac., and three grains pulv. opii, mixed with water in a spoon."

Judicial Advice to Medical Practitioners.—"In the course of a case which was tried at the Old Bailey yesterday, a medical witness, in giving his evidence, used the word 'tumefaction,' upon which Mr. Justice Coleridge said, 'I suppose by tumefaction you mean swelling.' Witness—'Yes, my lord.' Mr. Justice Coleridge—'Then it would be much better to use plain English, than to speak that sort of mongrel Latin.'" Such is the purport of a paragraph in the *Times* of Wednesday, or rather such is the paragraph itself. Now, we must say, that, if correctly reported, Mr. Justice Coleridge was most absurdly hypercritical; we deny that "tumefaction" is mongrel Latin, or even a pedantic expression, and we think it rather too good that the lawyer should think of correcting the doctor for a fault which the world at large regard as *par excellence* the foible of the gentlemen of the long robe.—*London Medical Gazette.*

Statistics of Midwifery.—The relation between the time of the last menstruation and the birth of the child is an interesting one. It was noted in 259 cases, as follows:

In 1	case	menstruation	occurred	about	5½	months before delivery.
4	cases	"	"	"	6	" " "
1	case	"	"	"	6½	" " "
9	cases	"	"	"	7	" " "
2	"	"	"	"	7½	" " "
24	"	"	"	"	8	" " "
24	"	"	"	"	8½	" " "
138	"	"	"	"	9	" " "
26	"	"	"	"	9½	" " "
18	"	"	"	"	10	" " "
11	"	"	"	"	11	" and over "
1	case	"	"	at irregular intervals throughout gestation,		

the appearance of the catamenia being preceded by violent neuralgic pains.

The points of interest in this table are—1st, the comparatively small number of cases where the intervening time has been less than 8 months; 18 in 259 cases, or in the proportion of 1 to 15; of these 18 cases, labor came on in nine of them at 7 months. This large proportion, taken in connection with the results, would seem to indicate a disposition of nature to expel the child at the seventh month of the utero-gestation. The question would arise, also, whether the presentation of the child had anything to do with this. The case at 5½ months was a woman who dated her pregnancy nine months before her delivery, but who continued to menstruate regularly until this short period before her accouchement. Child healthy and weighed 6 pounds 11 ounces.

Total duration of labor. It was noted in 526 cases and lasted

3 hours and under,			in 77	cases.	From 24	to 36	hours	in 35	cases.
From 3	to 6	hours	in 73	"	36	to 48	"	in 13	"
6	to 12	"	162	"	48	to 72	"	in 8	"
12	to 18	"	95	"	4	days		in 1	"
18	to 24	"	61	"	8½	"		in 1	"

The proportion of those under six hours to the whole number is as 1 to 3:48 or 28 per cent.

Of *nineteen* still-born children where the superior extremity of the fœtal ellipse presented, in *eight* of them no cause was ascertained, nor did there anything occur during the delivery that might lead to such a result. *Two* had the cord tightly around the neck at birth, and the face livid. In both the cord was loosened as soon as possible, and efforts made to resuscitate without effect. *Two* breathed after birth, but soon died, one in half an hour, and the other in five hours. *Three* were from mothers who had convulsions during labor. *One* was

still-born after a labor of fifty-eight hours in a woman with venereal warts. *One* was the first of twins and "had been dead some time." *One* had its position changed from the 4th vertex to the 2d vertex during the progress of the labor, and *had the cord around its neck.* It lived half an hour and died. (Can the fact of the cord being around the neck endanger the child during such a change of position?) In *one* case ergot was given during the second stage, and repeated with effect eight and a half hours before the delivery.—*Am. Jour. Med. Sci.*, April.

On Tubercles and Phthisis. By James Black, M. D.—Considerable difference of opinion still exists among pathologists as to the generation and development of tubercles, as found in the lungs—whether they are the physiological result of a low inflammation, or are a peculiar deposite from the blood, formed by the aggregation of certain morbid or semi-organized molecules, or whether they are an abnormal growth, of the nature of hydatids. Their primary localization is also unsettled. Gerber considers these deposits may arise from any arrestment in the capillaries of the lungs, by which an exudation of the *plasma* or *liquor sanguinis* takes place through the parietes of the vessels into the parenchymal tissue, and so the tubercles are formed—thus making them a mere exudation of albumen, if not of fibrinous globules. Lugol considers their formation to be an *epigenesis*—organized matter capable of nutrition, similar to parasitical growths in other parts, such as in the case of hydatids, intestinal worms, and *pediculi.* All these parasitical complaints are held to be much more frequent in scrofulous habits than in others; and he denies that tubercles begin to soften first in the centre, but equally throughout, being previously quite homogeneous in their texture. As a proof that tubercles are endowed with vascularity, Lugol has met with two instances of hemorrhage in their interior; and, according to his latest opinions, tubercles are no more to be looked upon as devoid of blood-vessels, than the pleura or the white matter of the brain, when congestion or inflammation does not exist; but where vessels are easily detected by the naked eye in all of them, when these phenomena take place. Dr. Kingston also argues for the vascularity of tubercles, and cites, as an analogous proof, the *supposed* non-vascularity of articular cartilage, which he says, has now been proved to be supplied with blood-vessels. In this, he may be said to over-

look the ready development of vessels in textures normally corpuscular, or only endowed with cellular permeability. In opposition to these views, many pathologists, especially in this country, consider tubercles to be composed of inorganized matter deposited from the blood on the mucous surface of the air-cells, and, not unfrequently, in the parenchyma of the lungs. It also follows, that as no change can originate in the organized matter itself, so the solidified tubercle can only be affected through the agency of the parts around, or in contact with it. These latter opinions are founded, principally, on the anatomical researches of Dr. Carswell; and Dr. Watson adopts them to their full extent, while he agrees with Lugol, that the formation of tubercles is closely linked with the scrofulous diathesis. While the miliary tubercles are considered by Andral as the pulmonary vesicles rendered hard by chronic *inflammation*, others, following Dr. Carswell, continue to attribute them to a secretion from the blood, not of tubercular matter alone, but also of a portion of deposite. Dr. Watts seems to hold the modified view of tubercles being of an intermediate nature between pus and coagulable lymph, first solidifying, then softening. That tubercles are the pure result of inflammation, is now rarely entertained; but the more modern phraseology is, that they are the result of a perversion of the ordinary process of nutrition; and that the existence of the scrofulous diathesis occasions that to be deposited as inorganizable albumen, which, in a sound state, would have taken on the form of organized fibrine. Dr. Campbell, moreover, in his late *Observations*, infers, with some French physiologists. that the pulmonary capillaries are of smaller dimensions in individuals of strumous habits, than in those of a healthy constitution. This is the predisposition which arrests the imperfectly organized globules in the lungs—a deposition therefore takes place in the pulmonary capillaries, followed in process of time by a reaction, explosive of the disease. M. Louis, in his admirable article on Phthisis, in the *Dictionnaire de Médecine*, lately published, takes a review of all the theories existing on this subject, and considers objectionable that of tubercle being the result of inflammation, or of being nothing but concreted pus, having its seat in the venous capillaries, according to Cruveilhier and Lallemand. He considers the semi-transparent granulation or miliary tubercle as the first degree, or the nucleus which is developed into the crude tubercle; and, on the whole, he seems inclined to attribute some vascular organization to these bodies. The article is a most valuable one, and deserves translation into our language.

Notwithstanding the continued hopeless fatality of tubercu lar phthisis in general, after all the progress that has lately been made into its *genesis* and the intimate analysis of its morbid products, still we may say, we are advancing in the more correct appreciation of those cases, in which a lamentable issue is to take place, through the means of stethoscopic diagnosis. The more perfect knowledge of the predisponent causes and the incipient condition of the disease is, by degrees, leading us to a more scientific application of preventive measures, and, especially, by correcting early aberrations in the nutritive organs. The use also of respirators and of artificial local atmospheres, as recommended by Mr. Jeffreys, if a timely removal to an appropriate climate cannot be accomplished, are also thought more worthy of attention. It would also appear from Liebig's late investigations, that a diminished supply of oxygen from a warm and moist atmosphere, would tend to diminish the amount and severity of pulmonic disease. Mr. Gilbert, in his lately published work, while he considers, like several of his predecessors, the *fons et origo* of the disease to be owing to inorganizable matter being conveyed into the blood from a defective or perverted nutritive process, strongly insists on a judicious regimen and diet in youth, especially where there is a phthisical diathesis in the parents. To detect the earliest invasion of the disease, which is the most difficult point in our stethoscopic diagnosis, he recommends M. Fournet's very discriminative attention to the respiratory murmurs, and especially to those of expiration, which are increased both in duration and intensity, while the inspiratory murmur is increased only in intensity, but diminished in duration.

The occasional discovery of cicatrized cavities in the lungs, such as are related by M. Payan, of Hotel Dieu of Aix, and Drs. Stokes and Graves, has moreover stimulated some to continue the use of empirical remedies, even in the advanced stages. Among these, we have the *proto-iodide of iron* and the *ol. asphalti;* while, in the early periods, we have the pure alkalies highly recommended by Dr. Campbell, and repeated emetics of *ipecacuanha* by Dr. Durant, after the old plan of Dr. Morton. We must not here forget the very elegant arsenical cigarrettoes, invented by M. Trousseau, which in these days of *fumo-mania*, might be easily and effectually adopted, instead of glass inhalers or other stationary apparatus, which are seldom perfectly managed by delicate and nervous patients.

Some of our French brethren are not very sanguine that

the light of modern science will add much to the cure of phthisis; and M. Paris, Haute Saone, even says, that since the discovery of auscultation and percussion, the disease is in general more rapidly fatal. He attributes this to an early decided prognosis, whereby the patient is at once put upon a medicated diet, by which the blood becomes sooner impoverished; for he considers the very essence of the disease to be a poverty of nutritious principles in the blood—that its character is chronic, and that its more irregular and rapid progress is owing to the employment of an antiphlogistic treatment, to a dietetic regimen, or to a milk and mucilaginous diet, producing an atony in the digestive organs, and also to the depression of the active moral sentiments. He also cites some cases where a generous diet and dissipation of time, with travelling, produced a cure or lenghtened course of the complaint. I may here remark that some late statistical inquiries have tended to stagger the popular, if not medical opinion, as to the greater prevalence of phthisis in some climates, and among some classes of people, who were thought very obnoxious to the disease. A writer of a very elaborate article in the *London Medical Gazette* has endeavored to show that, from statistical returns, "it is neither inequability of temperature, nor the frequency and magnitude of the variations in temperature to which a country may be subject, that has any effect in the production of phthisis; and Mr. Noble, before the statistical section of the last meeting of the British Association, has deduced some observations, in which some few others concurred, that the deaths from consumption, in the factory district of Manchester, were actually fewer in proportion to the deaths from all causes, than in the agricultural county of Essex, being as four to twenty-one in Essex, and three to nineteen in Manchester; and, finally, he showed that a smaller rate of mortality from this disease, compared with the number of deaths from other causes, existed in the Manchester district, than was to be found in the rural parts of the country.—*Retrospective Address*, in *Trans. of Prov. Med. Association.—Ibid.*

THE WESTERN JOURNAL.

NEW SERIES.—VOL. I.—NO. V.

LOUISVILLE, MAY 1, 1844.

PHILADELPHIA HOSPITALS.

Dr. Bell, the judicious and able editor of the Bulletin of Medical Science, represents the teaching of Clinical Medicine in the Philadelphia Hospitals as having been meagre and imperfect during the last winter. The amphitheatre exhibitions made by the Professors in the two schools he considers poor substitutes for bed-side medicine, or clinics proper. It seems that the wards of the Pennsylvania Hospital were almost deserted by the students, and that but one visit a week was made to the Philadelphia Hospital. These signs, he thinks, indicate anything but a healthy state of clinical instruction. He adds:

"If defects in the regular system hitherto pursued have been discovered, let them be amended by consultation between Professors of Medical Schools and Managers of Hospitals and Dispensaries; but in the name of consistency, let not the philosophy and true nobility of medicine be tarnished by empirical devices, expedients of the hour, to the sacrifice of her future character and usefulness. In

common with every Philadelphian, and especially every Philadelphia physician, we find ourselves compromised by the present course and tendency of clinical exhibitions once a week within the walls of a college."

Dr. Bell has here stated a grievance more easily pointed out than remedied. How clinical medicine may be taught satisfactorily to a large class, we take to be one of the unsolved problems which lie in the way of medical teachers. The old method of congregating several hundred young men in the wards of a hospital, where, at most, only a dozen or two could either see the patient or hear the words of the professor, was too ridiculous to be long continued. The amphitheatre has now, we believe, been pretty generally adopted, and is esteemed a great improvement upon the former system. Still it is liable to many serious objections. It is desirable that each student should make a personal examination of the patient, which, in fact, is the only course by which he can become instructed in the signs and diagnosis of disease. He who shall indicate a plan by which this object can be carried into successful operation, will be a benefactor to the medical profession. Clinical medicine is justly regarded as an indispensable branch of medical instruction, and it is the interest of every medical school to foster and develope it. A school in which it is not taught would now be esteemed radically defective in its organization—could hardly be called respectable. We are glad to perceive a growing disposition among students to pass the summer in the neighborhood of hospitals, and avail themselves of clinical instruction during the months when the wards offer the greatest variety of interesting disease, and the best opportunities for deliberate individual inspection. The class in attendance on the summer lectures, in this city, is encouraging, and pupils are coming in every few days. The Louisville Marine Hospital affords excellent facilities for clinical instruction, of which it is hoped that the gentlemen engaged in teaching it will make profitable use.

Y.

TRANSYLVANIA MEDICAL SCHOOL.

This institution has lately been the subject of an animated controversy in one of the Lexington papers. A graduate of the school,

an experienced and highly intelligent physician of Lexington, calls upon the Trustees to remedy certain organic defects in the institution which, he contends, seriously threaten its prosperity, if not its very existence. He says:

"This school, (Transylvania) which is the oldest in the West, had no rival for many years, during which time it acquired a high reputation, but from the operation of causes which are now well known, it has commenced with fearful rapidity a decline in public estimation, and in the estimation even of its friends, which will soon ultimate in its entire dissolution and abandonment, unless, by timely re-organization, the causes producing this effect are counteracted or removed.

"The writer of this communication is a graduate of Transyvania, and not only regrets the indications of her declining reputation, but desires the prosperity, the distinguished and unfading renown of his parent institution; and the object he has in view in writing this article is to call the attention of the trustees of Transylvania, and citizens of Lexington, to the fact of its decline, that they, who are her guardians and who have power to act efficiently for her welfare, may speedily do it, before it be too late, by removing the causes which are hastening her dissolution.

"By comparing the last catalogue of this school with those of Cincinnati and Louisville, it will be perceived that the former is lecturing to nearly as many students, if not quite, as Transylvania, and that the latter has greatly the ascendency. Why is it that the Medical Institute of Louisville numbers 242 students, and this not quite 200?"

He enters, then, into the discussion of the causes which have brought about this result, and adds:

"When the medical department of Transylvania University was organized, a capital error was committed in blending the professorships of anatomy and surgery, and appointing the same individual to both professorships, and requiring him to do what no man is competent to do within the short period of four months, except imperfectly, to teach both anatomy and surgery.

"In the Louisville Institute a gentleman of distinguished talents and acquirements devotes the whole of his time to anatomical lectures, and such is the just appreciation of the value and importance of thorough knowledge upon this subject, he is assisted by a demonstrator of anatomy of equal talents with himself.

"This being the fact in relation to the facilities of obtaining a full knowledge of anatomy in the Louisville Institute, I ask, do not the friends of Transylvania see that unless equal facilities and advanta-

ges are afforded by our school, it must continue to fall, and the other rise, until there will be no competition between them.

"In the Louisville school, a gentleman of learning, talents, and of acknowledged practical abilities as a lecturer and operator, devotes the whole of his time to teaching the important branch of surgery, and in Transylvania the professor of anatomy and surgery divides his time between both subjects, and cannot, for want of time, if nothing else were wanting, teach either branch, if he had the talents of both, more than half so extensively and thoroughly as they are taught in our rival institution.

"We have conversed with individuals who attended both schools, who were competent to judge between them, who affirm that more than double the amount of anatomy and surgery are taught at the Louisville Institute, and as well taught, not to say better, than in Transylvania; and, with a knowledge of these facts, young gentlemen, in pursuit of medical knowledge, have gone there in preference to coming to Lexington, until it has become our successful rival, and unless by a speedy *re-organization*, which will afford at least equal facilities, and an equal amount of anatomical and surgical knowledge in our school, it will soon cease to be even the second institution in the West, instead of being the first. That a professor of anatomy of acknoledged abilities, who shall devote the whole of his time to that branch, is needed in Transylvania is evident from the dissatisfaction which the students generally expressed within the last session, many of whom were known to say they had visited this institution for the first and last time, unless there was a new arrangement by which they could obtain as much anatomical and surgical instruction here as at Louisville."

Dr. Peter deemed these complaints of so grave a nature as to require an answer from him, and he is accordingly out, at much length, in the same paper. He denies that the school has fallen into "a rapid decline," and publishes statistics to show that it has not lost quite sixty students in two years. He insists, in reply to his neighbor, that "Dr. Dudley, without descending into the trifling *minutiæ* of *unimportant* surgical and anatomical *niceties*, gives the result of his unequalled practical experience in the most simple and impressive manner." He considers it possible that "other surgeons may appear more learned in authors and opinions, or on the number of tails of a bandage;" but only let it come to cutting "the gordian knot of conflicting authorities," and, he assures us, "Dr. Dudley has no rival." He concludes his defence by asking his antagonist a question which, it is quite plain, he considers unanswerable, and by which, doubtless, he expected to terminate the controversy.

"If," says he "Dr. Dudley cannot teach anatomy and surgery, *who can?*"

Now, *non nostrum tantas componere lites.* We have no wish to interfere in the strifes of our neighbors, out of which we have little expectation of seeing anything grow of benefit to that school, or to the profession. We should not have felt authorized to refer to this controversy at all, if Dr. Peter, quitting the defence of Dr. Dudley, had not taken occasion to allude, in very offensive terms, to some of the professors in the Medical Institute of Louisville. We hope he was betrayed into the indecorum by hasty feeling, and that in his subsequent cool reflections he has found cause to deplore it. He must be satisfied that the late embittered strife between the rival schools was kept up quite too long, and that no good can result from its revival. He must have been aware that his language in reference to members of the Medical Institute, is well calculated to lead to a renewal of personal quarrels of which the public is tired, and by which neither party is likely to gain anything. Peace, assuredly, is the policy of both institutions, as it is the only line of dignity. Let the members of each labor faithfully in their places to build up schools which shall be ornaments and blessings to our country.

We do not doubt, that we shall have the feelings of all right thinking men with us upon this subject. They will condemn such an aggression by a professor in one school upon the members of a rival institution. It is the desire of the profession to see harmony among our numerous schools of medicine, and we are sure they will disapprove of any act which tends to disturb it. Y.

DR. PATTERSON'S VALEDICTORY ADDRESS.

Professor Patterson, of the Pennsylvania Medical College, delivered a sensible and appropriate address to his graduating class at the close of the last session, of which we have had the pleasure to receive a copy. We will add that we experienced much pleasure in reading it. It is the production of a gifted and cultivated mind, characterised by modesty and a love of truth. The thoughts

are occasionally excellent beyond the average of such discourses. Take the following as examples:

"No class of men appear more backward than the members of our profession to admit the correctness of the position so stoutly contended for by a late author, that he who prints, for any other reason than because he has something in him which deserves to be printed, sins against the peace and comfort of the community. In these latter days of book-making, too many, inspired by the mere lucre of gain and the poor ambition of seeing their names printed on a title-page, have poured out treatise upon treatise, compiled and most unskilfully collated from foreign authors of all grades of authority, and in which you will find an attempt to extract the original matter as hopeless and unprofitable as the process of Gulliver's philosopher for obtaining moon-shine from cucumbers. Under these circumstances you would of course, err in giving equal credence to all authors, without discrimination. This fact also renders inexcusable those who state no settled opinions of their own, but merely give the conflicting views of others, balancing one array of names against another, as though they were counting the black and white balls in a ballot-box, without giving the student or the man of small library a clue to the authority properly attaching to any one of them. But while endeavoring to distinguish authoritative writers from others, you must be equally guarded against falling into the contrary error, an implicit reliance upon the dictum of any one man. The rule here, as elsewhere, is that the truth makes the authority, and not the authority the truth. Let your reverence for the individual be ever so great, you must bear in mind that our science is still progressive, and that no man has yet reached its ultimate truths, or can say to its swelling tide, 'Thus far shalt thou come and no farther.'"

And again:

"Never forget that you are not the master of Nature, but her humble attendant and assistant; that you are not the source of law to the vital economy, but merely the servant to aid the operation of its laws. The forces of the living organism are in a great measure beyond your control. Be cautious how you disturb them. Never look on a disease as some corporate entity which you can demolish at a blow. I would inculcate upon you no indolent Expectancy, no sluggish "meditation upon death," but I would advise you to be careful lest you tamper too freely with this complicated mechanism and its occult forces. I fear that the appeal of the quaint emblemist, Quarles, is addressed properly to many even in our day:

"Hold thy hand, health's dear maintainer;
Life perchance may burn the stronger;
Having substance to maintain her,
She untouched may last the longer.
When the artist goes about
To redress her flame, I doubt
Oftentimes he snuffs it out.

"But to the man of correct physiological views, who is acquainted with the laws of the organization upon which his medicinal agents operate, no such appeal need be made. He knows his position and his duty, and as he sits by to replenish the oil and tend the flame of the lamp of life, he can never imagine himself the source and fountain of its elemental heat and light."

This farewell address seems to have been delivered by Professor Patterson to his first class. We shall expect to hear of him again, as one who has won a name among the many renowned medical teachers of Philadelphia. Y.

WOUND OF THE INTESTINE, TREATED BY SUTURE—RECOVERY.

The following interesting case is contained in a letter from Dr. J. D. McBrayer, of Harrodsburg, Ky., to Prof. Gross.

On the 18th of March, 1843, a negro man (belonging to J. T. of Mercer county), 30 years of age, strong and athletic, received several stabs, one of which penetrated the cavity of the abdomen, midway between the umbilicus and the anterior superior spinous process of the ilium. The wound externally was about three inches in length, but not more than an inch where it penetrated the cavity of the abdomen. I saw him eight hours after the injury was inflicted, and found eighteen inches or two feet of the small bowel protruding. A moist cloth had been laid over the exposed bowel for protection; they had become partially dry and adherent. Warm fomentations were applied and the cloth removed; upon examination of the protruded bowel, a small puncture, about four lines in length, was discovered, penetrating it transversely, the mucous edges being completely inverted. Fortunately, remembering the strict injunctions given in your interesting lectures upon that subject, I adopted the course recommended by you, of closing the puncture by suture where there existed a liability to the discharge of fæcal matter through the wound. A single stitch with a common sewing needle armed with silk, sufficed to close the orifice so as to prevent the es-

cape of the contents of the bowel. With some little difficulty, the bowel was reduced without further dilating the wound. After ascertaining that there was but little if any hemorrhage into the abdomen, the edges of the wound were drawn together, and retained by three stitches, supported by adhesive strips, a compress and roller, &c. The other wounds were dressed by suture, adhesive strips and the bandage.

The patient being considerably exhausted by loss of blood from a wound on the hip involving the gluteal artery, stimulants were administered with freedom, during the dressing and for several hours after. About six hours after the dressing, when he had partially recovered from the immediate effects of loss of blood, the bowels were thoroughly evacuated by an enema of warm water.

March 19th. Circulation rather feeble with general languor and harassing cough, probably induced by remaining for some hours in his bloody clothing,—directed some mild expectorant remedy.

March 20th. Less languor; cough mitigated; pulse has more force and frequency; bowels sufficiently active.

21st. No improvement in the cough; reaction thoroughly established; slight soreness of the bowels; pulse small and tense; directed a saline draught.

22d. Cough continues; complains of pain in the bowels, increased by pressure; pulse hard and 120 to the minute; v. s. to ℥x. when the pulse became soft, full, and less frequent, and the pain in bowels greatly relieved. In the afternoon, the pain returned with the tension and force of the pulse; v. s. to ℥viii.; soon after which all symptoms of peritoneal inflammation subsided. His bowels were regulated by the use of oil and saline purgatives.

On the 25th the dressings were changed; the wounds looked healthy and were healing.

After this the dressings were regularly renewed every two or three days. The stitches closing the wound of the abdomen were not removed until the 15th day, in consequence of a remaining disposition to cough. In twenty days from the time the injury was received, the patient was enabled to walk out, and in six months he resumed his ordinary business. He still remains well.

LUNATIC ASYLUM IN INDIANA.

A correspondent informs us that the General Assembly of Indiana, at its last session, authorized a tax of 1 per cent., for the purpose of erecting an Asylum for the Insane. Ere long, therefore, we may hope to see an institution worthy of that young but noble commonwealth.

This action on the part of the Legislature is due mainly to the strenuous exertions of Dr. John Evans, of Fountain county. We have before us now a strong and eloquent address which he delivered by invitation before the Committee on Education of the House of Representatives, and the public, on the 25th of December last. Dr. E., at all sacrifice of time and labor, has not ceased, year after year, to press this matter upon the consideration of the Assembly, and we rejoice that his exertions have at length been crowned with success. We trust that when the proper time arrives, he will consent to take charge of the asylum; in his hands it could not fail to take rank immediately among the first institutions of the country.

C.

MEDICAL LECTURES.

Several gentlemen are engaged in the course of Lectures at the Medical Institute announced for the Summer. The session is divided into two terms—the first extending to the 1st of July, the second beginning the 1st of September and closing with October. Doctors Buck, Hagan, and Ferguson deliver their lectures in the Spring division; Drs. Cobb, Gross and Miller will lecture during the Fall term, and Drs. Caldwell, Yandell, Bayless, and Colescott are engaged in both terms. Clinical instruction is delivered at the Hospital.

Y.

LONDON LANCET.

The publication of this medical newspaper in this country was suspended for some time, but we are glad to have in our power to announce that it has been again resumed. Our readers will be pleased to hear it. The Lancet is one of the most spirited and racy publications of the day, and ought to have a wide circulation. Its present publisher is Thomas Walsh, 162, Nassau street, New York.

Y.

BOOKS AND COMMUNICATIONS RECEIVED.

We are indebted to the publishers for a copy of Stokes' valuable work on the Chest, which will receive our earliest notice. From the Medical Society of N. Y. we have received a copy of their Transactions containing several interesting papers, of which we shall have something to say hereafter. We are obliged to Dr. Bell for a copy of Nunnelly's elaborate monograph on Erysipelas, published in his Select Medical Library. Dr. Dowler, of New Orleans, has favored us with a learned communication on *Post-Mortem* Fever, which will appear in our June number.

THE

WESTERN JOURNAL

OF

MEDICINE AND SURGERY.

June 1844

EDITORS.

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PROFESSOR OF PATHOLOGY AND THE PRACTICE OF MEDICINE
IN THE MEDICAL INSTITUTE OF LOUISVILLE:

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PROFESSOR OF CHEMISTRY AND PHARMACY IN THE SAME:

THOMAS W. COLESCOTT, M. D.

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THE

WESTERN JOURNAL

OF

MEDICINE AND SURGERY.

JUNE, 1844.

ART. I.—*Experimental Researches upon Febrile Caloricity, both before and after death—Post-mortem Fever.* By BENNET DOWLER, M.D., of New Orleans.

In these researches, it is not intended to enter upon the general theory of fever, though a few brief explanatory notices of some elementary, or rather incidental points, are deemed necessary for the purpose of illustration and comparison.

It has been often remarked, that the ancient fathers in medicine regarded fever in a very literal sense, as a morbid heat; a notion which, though ridiculed by some modern authors, has prevailed in all times, and in all places among

the people. This simple view of fever will suffer little by comparison with the vague, cumbrous definitions of the most fastidious nosologists, such as Cullen, Good, and others. Dr. Billing, a late writer, says that the essential symptom of fever is "debility"—"all superadditions non-essential," (Prin. Med. p. 231 et seq.); Boisseau calls it an idiopathic local irritation, (Fevers, p. 490): Broussais holds the same doctrine. British authors, less simple in their definitions, give HEAT an obscure position in the catalogue. Wilson Philip, (vol. 1, p. 43, Fevers), makes fevers to consist in the following symptoms: "Languor, lassitude, and other signs of debility, followed by a frequent pulse and increased heat, without any primary local affection." Fordyce says, "Fever is a disease of the whole system," (Fevers, p. 16, et passim). Some authors regard putridity, some a hurried pulse, &c., as the essential characteristic, but after all the countless works upon the subject it would seem that no single symptom is more to be relied on than that given by Hippocrates and Galen,—a *burning*, a *morbid heat:* the latter considers that this *unnatural heat* originates in the heart, whence it is diffused over the whole body: "*Calor quidam præter naturam in corde generatus:*"—both these authors appear to regard febrile heat not only as to its augmentations, but also with respect to alterations of quality and unequal distributions in the body.

The ancients, it must be confessed, were sometimes very incorrect and extravagant in their estimates of the importance of heat. "*Quod calidum vocamus,*" said Hippocrates, "*id mihi et immortale esse videtur, et cuncta intelligere, et videre, et audire, et scire omnia, tum præsentia tum futura.* (*Lib. de carn. c.* 1).

Multitudinous analogies might, perhaps, be traced between febrile caloricity, and concentrations of caloric applied to the body in burns of a certain degree; the effects are somewhat similar, as the rigor, the reaction, and even the internal lesions. Mr. Curling noticed vomitings and purgings of *blood*, and found acute ulcerations of the intestinal mucous tissue, chiefly in the duodenum,

as results of burns. (Med. Chir. Rev., Jan. 1843). Baron Dupuytren gives a summary of the symptoms of burns in the first degree, over a large surface, in the following words: "The pulse rises, becomes frequent, the tongue reddens, and the phenomena of gastro-intestinal irritation are developed." (Leçons. 16). It will yet in all probability be proved even in algid or congestive fever, that the heat of the central parts is, what the patient feels it to be, very great, morbid, unnatural, characteristic.

As the following experiments and observations afford, in many instances, deductions so opposite to those of all the authors I have seen, I must throw myself upon the indulgence of the reader until all my facts have been given. And, since I intend to give the details of each experiment, so that others may prove or disprove them, I may without arrogance ask this much in advance. For example, if my observations show that there is an increase of heat after apparent death, a true *post-mortem fever*, hotter than is ever known during life—that the thigh is hotter than the epigastrum, the heart, the lungs, and the brain,—let not the reader conclude that I am mistaken, simply because others advance doctrines, not facts, quite different. Be it remembered that my observations contradict their opinions only, not their experiments, because they have made none, so far as I know, under the same circumstances. The animal heat is supposed to be greater in the brain, heart, lungs and stomach, than in the rectum or thigh, because the latter are farther from the centre. Now, so far as I have experimented, immediately, as well as some hours after death from fever, the contrary is generally true, and, in the absence of conflicting experiments, I think that no theoretical view can weigh a feather against facts.

I may here remark, that except the primary stage of fever, the best period, or *point de départ*, for ascertaining the true morbid heat proper to that malady is that immediately after death.

The temperature of the human body, after death from fe-

ver at least falls not under the dominion of the atmospheric temperature, in general, for a period more or less prolonged; on the contrary it augments. This fact appears conclusive against the exclusive respiratory or chemical origin of animal heat. Chemistry teaches, as it appears to me, a very different doctrine from that which makes the lungs a heating furnace—the calorific focus of the whole body. Ought not the abundance of water and carbon which take the gaseous form in the respiratory act, to cause a perpetual refrigeration to go on in the lungs during life? Transpiration by the skin, or evaporation, performs a similar function. Both these organs may act too much or too little; they may refrigerate too far below the standard of health, or they may fail to reduce a morbid heat when once kindled up. Vitalism presents antagonistic barriers more or less effectual to these functional deviations. Cutaneous and pulmonary transpiration, chemistry and vitality, may thus combine, during life, to lessen the most intense morbid heat of fever, as well as in cases of external heat. But in the moment of death, this triune coalition is broken—the vital forces are scattered—cutaneous and pulmonary refrigeration is overthrown, and for an indefinite period, often short, the morbid heat, the true fever, un-repressed, reveals itself, until dissipated by the antagonism of the surrounding temperature. Heat and cold are no more produced, augmented, or diminished, except by those laws which govern inert matter alone.

Perspiration, a chemico-vital action necessary to life, showing itself often as sweat, but still oftener eluding our vision as an invisible vapor, appears active even in death: sometimes survives the death of other functions, as seen in transudations standing in drops upon the skin: the steam or vapor arising from the body, charged with the febrile odor, is obvious to the sense of smelling.

The following inquiry relates not to the physiology, pathology or therapeutics of temperature, but to its morbid and *post-mortem* history. It is not a little remarkable,

that the facts should be so few and so discrepant on this subject.

Will not the period arrive when the thermometer shall become the constant companion of the physician, and his guide as to certain remedial measures at the bed-side? Or is it a matter of indifference, in all diseases, whether the patient be plunged into a hot bath, or steamed nearly to scalding by the Thompsonian doctor, or macerated in cold water by means of cloths for hours, then plunged into a cold bath, to be followed with interminable douches and drinks? Must the patient during every walk, at every water-fall or pool, take a fresh bath, plunging and drinking like a fish, after the mode of the Silesian farmer, *Priessñitz*, and his many followers?

The Thompsonian declares that the only cure is heat; the Silesian, that the only cure is cold water? Why should a sick person, every where from 5° to 8° hotter than in health, be subjected to hot mustard baths, or another suffering from concentrations of internal heat, while the skin is in an algid collapse, be enveloped in the cold-water apparatus? Is there no criterion but caprice? If the physician has not the patience to call to his aid the thermometer in order to give precision to his prescriptions, let there be a Thermist or Themometer-man, or let the cupper add this instrument to his apparatus. At the present moment, while the cold-water treatment is spreading, it is the more necessary to seek precise knowledge upon this subject.

I now proceed to give an account of the circumstances attendant upon the following experiments:

Finding no thermometer exactly suited for my purpose I chose, as the least inconvenient, Reaumur's bath thermometer, having a double cylinder, one in the other; the outer one enclosing a paper scale. This, with all its tardiness, is the best I have yet seen; though I intend to direct the construction of two thermometers, so modified as to answer the purposes of the operator better than any I have used. It is evident that the common thermometer, with the metallic scale, is inapplicable; the stem is too fragile to be trusted to the

hand of a delirious patient; the bulb being globular, or irregular, or too small, cannot be grasped accurately, or confined by a bandage in the hand so as to exclude the air. A very large instrument, containing much quicksilver, robs the part to which it is applied of too much heat. For the hand, the popliteal region, and the cavities, a rod-shaped bulb, about two inches long—and for the surface of the forehead, trunk and thigh, a flattened and curved bulb, would be most convenient.

The calorific power, susceptibility, and conduction of the body differ greatly at different times, without any very appreciable changes in the circumstances. Sometimes my instrument attained its maximum in 5, sometimes in 10, sometimes in 15 minutes. On some occasions I refrigerated the instrument with ice-water, but this I found not only erroneous in its result by robbing the part of its natural heat, but it prolonged the experiment to an inconvenient extent. On the contrary the instrument ought to be kept nearly to the degree of the part, though this I often omitted. I have tested the instrument I used by thermometers made in Paris, in London, and in this country; by the published tables of Mr. Lillie of this city, without finding any discrepancy worthy of attention; also by boiling water, which agreed exactly in the last two of four trials: in the summer two experiments fell a little short of 80° R., 212° Fah.

Comparison of my observations with R.'s Ther. from Jan. 9th, 1844, to the 16th of the same month, with those referred to above, taken with Fah's. and published in the Republican newspaper for the same period.

NEW ORLEANS, LAT. 29° 57′.

Day of the month	8 A. M.		2 P. M.		8 P. M.	
Jan.	Fah.	Reau.	Fah.	Reau.	Fah.	Reau.
9	64	65	74	73	70	70½
10	70½	71	68	69	64½	64½
11	62	62½	64½	64½	63	65
12	69	70½	78	78	72	73
13	61	60	71		61½	59
14	62	62	79	77	71	74
15	72	73	64½	65¾	63	64½
16	63½	65	58	58	49½	50

Though the bath thermometer, (*thermométre pour les Bains*), reaches its maximum usually in 5 to 10 minutes, yet this is not always the case, especially in cool weather, and in some cases after appearing to be stationary a short time it begins to mount slowly a degree or even more: I have known it to decline as much in a few instances without any very evident cause.

The principal points of demonstration in the living body are the following: The hand, the axilla, the folds of the groin, the perineum, and the back part of the knee joint, when the leg is bent so that the heel shall press against the thigh. The horny induration of the skin of the hand incidental to laborers forms no objection if the instrument be held properly. It is a remarkable fact that the patient, even when more or less delirious, is apt to hold the instrument in a perfect manner; he grasps it a little too strongly; he fixes his attention upon it and drops his incoherent conversations. In raving delirium and deep coma the operator's fingers must be applied so as to close the patient's hand, or a bandage, or a handkerchief may be used for the same purpose. When the instrument is applied in the axilla the patient by lying on his side compresses it effectually excluding the air: nearly the same effects may be attained in the perineum, and in the scroto-inguinal region by crossing or flexing the thighs. The

popliteal region is one of the most convenient places, though unfortunately it did not occur to me in time to avail myself of it to any great extent: the patient lying on his back draws his heel against the buttock, or he may lie on his side and do the same, or the leg may be fixed against the thigh by carrying a single band around the ankle and upper part of the thigh. These points form for practical purposes a good, though not a perfect calorific circle, because the feet and head are excluded. The tongue so much relied on is for many reasons ineligible; breathing, moisture, evaporation modify the result; it is inconvenient and repulsive, and if the patient be delirious it is impossible.

In the dead subject these points, except the hand, are alike available, together with many others of greater value, as the rectum, vagina and artificial punctures, by which all the cavities may be explored with facility. These latter should be made no larger than is absolutely necessary to admit the instrument, say the third of an inch, and in such a manner as to exclude the air. This is easily done upon the chest, &c., by drawing the skin so that when punctured it shall act as a valve over the internal orifice. The highest portion of the pericardium and heart may be stabbed, so as to admit the instrument without exposure; the instrument may be forced into the parenchyma of the liver without any cutting in most cases.

For a considerable time I was at a loss how to reach the brain without exposure. All known modes of opening the brain are bad, nay sometimes murderous in a pathological sense; the saw cuts vessels in the dura mater or even deeper, causing sanguinous effusions and discolorations, discharging at the same time, the serosity in the arachnoidal sack; the hammer often produces the rupture of minute vessels at and under the point of the stroke. Even on the other side of the head, where the counter stroke (*contre-coup*), is received ecchymoses, and bloody infiltrations of the membranes of the brain may and often do thus happen.

At length it occurred to me that the orbit of the eye would afford every possible facility of reaching the brain without admitting the air. The tissues at the inner angle of the eye were divided—an iron punch as large as the thermometer was used to perforate the thin bones of the orbit which requires but little force—the thermometer passes readily, without even destroying the eye in most cases.

Though I have not restricted my observations to yellow fever, yet this is perhaps the best fundamental type, not only for the study of febrile pathology in general, but for the study of temperature, because it is the most acute fever known, and because the various tissues of the body are usually but little altered by remote secondary sub-lesions, of a general character, not directly connected with the disease. For example, the exterior of the body though much discolored, presents no bed sores, no emaciation—the muscles no paleness, softness, inelasticity—the cellular tissue no serosity—the organs no atrophy, &c. The original malady is not lost in the labyrinth of tedious, transforming, secondary affections.

The external caloricity of yellow fever, is, in the living body, usually greatest in its primary, less in its middle, and least in its closing stages, at such points of demonstration as are most easy of access, though these variations may or may not prevail in the central organs. These propositions will be proved hereafter.

With a zeal deserving all commendation experimenters have sacrificed hecatombs of the inferior animals. Scorning to retreat into the mazes of an *unexplained vitalism* for physiological and pathological explanations, they have boldly appealed to the physical sciences, to vivisections, and to diseased conditions artificially produced, for the establishment of the principles which govern the living body in a healthy and morbid state. Even when they fail in these difficult enterprises, they can say as a royal but defeated soldier said after an unfortunate battle—"we have lost all but our honor."

Of the essential nature of an isolated vitality we know no-

thing. Of its material manifestations we know something, but that something is modified by those laws which govern dead or inert matter, presenting a very complex combination which it is difficult to analyse so as to show which is strictly vital, and which exclusively physical.

But in these crusades against vital explanations, at the head of which stands that veteran of vivisectors, MAGENDIE, is there not danger of running into the opposite extreme? Is not an experiment, when modified by the agonies of mortal vivisection, or a fatal poison introduced into the blood-vessels, more or less equivocal, unsatisfactory, nay fallacious, in its application to a natural disease, or a physiological action, or any law of natural philosophy? It is but too much like that judicial proof, in the criminal jurisprudence of a period not long since passed, called THE TORTURE, consisting of screws, wedges, wheels, pullies, dislocations, fractures, burnings, drawings, and quarterings, so contrived as to extract evidence, by which the victim sometimes confessed not only the truth, but a good deal more, accusing himself of sorcery, witchcraft, and other supernatural and impossible misdemeanors?

Surgery has taken advantage of this mode of inquiry, and with the best results. A better example could not be referred to than that recently given to the world by Professor Gross in his experimental and critical "Inquiry into the Nature and Treatment of Wounds of the Intestines." (Western Jour. Med., 1843). But the *proof by the torture* in physiology and pathology must not be too much relied on, even when applied by such an operator as the distinguished MAGENDIE. Dogs are available in surgery, but except hydrophobia they do not suffer much in common with humanity, as fevers, &c. Now this cannot be applied to the mode of proceeding I have adopted in taking the temperature as soon as sensation ceases. If the thigh be 113° sometime, say one to three hours after death, what may not have been the heat of the central organs throughout the whole malady? The greatest objection which theorists can bring against this mode of study-

ing fever in its literal sense, immediately after apparent death, is the fact, or supposed fact, that the heat, morbid and healthy, must cease along with the action of the heart, lungs, and senses. Though these may die simultaneously in a few cases, yet such is not the fact generally. But the objection shows the importance of the inquiry, since it implies that however great the *post-mortem* fever may be, the *ante-mortem* fever must have been greater, and if so, pathologists have greatly underrated the intensity of febrile heat. This mode may have its modifying circumstances too, but they are natural, not artificial.

In the history of the progress ot the medical sciences, and particularly of physiological experimenting, animal temperature has a conspicuous place: this is a salient point in Baron Cuvier's celebrated work (*Hist. des Prog. des Scien. Nat.*) In almost every weekly meeting of the French Academy of Science, this is a prominent theme, as may be seen in the ponderous quarto tomes (*Comptes Rendus*), annually published by that learned institution. Among its members, Becquerel and Breschet have distinguished themselves by researches upon this subject.

The healthy temperature is a matter of the utmost importance in determining what may be regarded as morbid heat Broussais says, "the observing physician never will attempt to investigate morbid affections except by the lights of physiology" (Chron. Phleg. v. 2, p. 10). It may be well to examine briefly what the authorities say on these topics. Becquerel and Breschet represent the heat of the interior of the body to be 98.6° Fah. (Compt. Ren. tom. 6, p. 438)—Fordyce 97°, (on Fevers)—Müller, (Phys.) 100⅜° to 101¼°—Dr. Beaumont, the best authority on the temperature of the stomach, says it gives an average of 100°, (Experiments on Martin). Copeland fixes human temperature from 96° to 100°, (Dict., art., cold). Müller says that the temperature is lower, the farther removed the point is from the centre—axilla 98°; loins 96½°; thigh 94°; leg 93° or 91°. Again, mouth and rectum 97.7° to 98.6°: he thinks there must be some error in several

experiments of Dr. Jno. Davy, in which Dr. D. found the heat somewhat higher in the rectum than in the brain, (Phys. p. 94). Magendie (Phys. by Prof. REVERÉ) lays down the same doctrine: "the chest is the centre of animal heat, which there approaches 104°, while the limbs are 88° or 90°" (p. 94). Again: "those parts which are most distant from the heart or receive less blood are colder—the limbs are colder than the trunk," (Edit. 1844, p. 448). Prof. M. Edwards (Anat. and Phys., p. 154), holds the same doctrine. Now, it will be seen that febrile caloricity is not distributed, at least in the dead body, according to these laws, until a certain period after death, the period of refrigeration.

Whether morbid heat be simply an augmentation of animal heat, or some deleterious combination of it with solar and terrestrial caloric, latent and free, is foreign to our present purpose. It will be necessary to take a rapid glance at its character, in the only point of view in which it has been contemplated by authors with some attention, namely, in its range in the living body, principally during fevers. We shall perceive, hereafter, the strong and unexpected contrast afforded by the dead body.

Müller's estimate of the maximum morbid temperature is in some diseases as high as from 106° to 107° Fah. Horn, Fordyce, and Elliotson put the maximum in fever at 107°; Dunglison at 106°, (Phys. vol. 2, p. 200); Currie at 105°, one case only at 108°, (W. Philip, Fevers, vol. 1, p. 124); Colhoun at 105° (Greg. Prac., note, vol. 1, p. 45); Bouillaud says that the heat in typhoid varies from 33° to 41° cent. $91\frac{2}{3}$° to $105\frac{4}{5}$° Fah., being always more elevated than in health, (Dict. des Dict. de Méd., t. 8, p. 646, Paris, 1841). Magendie says that the temperature of the body never exceeds 40° cent., 104° Fah. (Lect. on the Blood, Bell's Edit. p. 236). Sir Astley Cooper, who quotes Jno. Hunter, denies that there is any increase of temperature in the interior of the body from internal inflammation, though upon the surface in external inflammation he admits a rise of 7°, that is as high as 90°, under the following circumstances:

"On the inside of the thigh, where a blister was applied, the thermometer rose to 90°, whilst the inside of the opposite thigh was only 83°; in another case it rose only 4°, but in every experiment the temperature was increased (Cooper's Lect., vol. 1, p. 22-'3). Hunter's opinion is based on operations upon brutes. Dr. Cheyne found the heat in fever to rise to 109° (Prof. Bartlett on Typhoid, p. 264). Prof. Watson limits febrile heat to 107° Fah. (Lect. Pract., p. 85, 1844).

The great influence of moderately prolonged cold upon the human body has been but little studied and less understood. Dr. Dunglison considers it as proved, that exposure to cold is incapable of depressing the temperature of the system lower than about 15° beneath the natural standard." (Phys. vol. 2, p. 195). When the whole body sinks to 78° or 79° death takes place: (ib. p. 213). M. Laurent says the same, though he places the vital heat unusually low in the following passage:

"Lorsque la soustraction de la chaleur du corps humain est trop brusque et trop continue, sa température vital habituelle, qui est de 32° C. (87.6° Fah.), descend à 26° (67.8° Fah). Alors se manifeste le besoin d'un sommeil invincible; c'est la torpeur ou l'engourdissment, précurseur d'une mort produite, suivant M. Chaussat, par l'epuisement des forces nerveuses, et probablement aussi par l'action direct du froid sur le sang, qui se coagule dans les vaisseaux."—(Dict. de la Conversat., vol. 12, p. 345, Paris 1834).

Dr. Currie found the temperature of a man plunged into sea-water at 44° sink, in the course of a minute and a half after immersion, from 98° to 87°; and in other experiments as low as 85°, but never lower than 83°. It was always found, however, that in a few minutes, the heat approached its previous elevation. Similar experiments have been performed on other warm blooded animals. (Ibid. p. 191).

The following experiments, made with much care and copied without any picking or selection, appear so far as they go to overthrow these conclusions. Observations more nu-

merous, and not confined to a single person, might be more satisfactory.

I may here remark, that while sitting in a room artificially warmed the hand holding the instrument was always turned from the fire, and rested upon a table covered with a woolen cloth. During the experiments the hand was never opened, the temperature was usually noted every minute, or every five minutes, though not always so mentioned in this paper, from a wish to be brief in details.

Jan. 16th, 7 A.M.—Room 65¾°; experiments 1 hour in bed; crossing the thighs 97¼°; perineum and scrotum 100°; pressing the sole of the foot against the internal maleolus 97¼°; axilla 100°; bend of the elbow 98°; left hand 98°. Left the bed, put on no coat, in 30′ the hand gave only 90¼°.

3¼ P. M. Room 68°, caloricity of the left hand, after a trial of 35 minutes, 98°; water at 61½° was applied repeatedly to the forehead for 37 minutes; during this time the heat of the hand fell 8°; the person well clothed. There can be no doubt that here the whole system was cooled 8°; the face became pale, afterwards flushed.

Jan. 17, 6¼ A. M.. Bed-room 46°; left hand not covered by the bed-clothes, in 23 minutes gave 92°; leaving the bed, 8 minutes, without dressing to 85°; partly dressed, 20 minutes, 80°. In a room with a fire at 59°, in 15 minutes, 75° (here a slight exposure to a moderate cold caused a fall of 17°); went into the open air at 46°; water at 38° was applied to the face and both arms at intervals for 11 minutes, the hand fell to 72°; breakfasted 15 minutes, repeating the cold occasionally, 70°; went into the room where the fire was, as above, 15 minutes declined to 67°! At 10 A. M., the left hand was 96°, clothed: room 66°, good fire. Rolled up the cuff, applied water at about 44° to the wrist with a sponge, &c., at intervals; in 40 minutes the heat fell to 80°, in 15 minutes to 74½°; cold now applied to the forehead only, 10 minutes, 70½°; cold now withdrawn; sat by the fire 15 min-

utes; hand 68°; 15 minutes 69°; 10 minutes 81°; 15 minutes 93°; 30 minutes 98°; 10 minutes 99°.

The refrigeration progressed as long as the experiments lasted: in the first case depressing the temperature, in 1 hour 24 minutes, from 92 to 67°, a difference of 25°; in the last case, occupying nearly the same length of time, the fall was 28°; in 15 minutes after the withdrawal of the cold, aided by a comfortable fire, the hand was still 3° below the point of departure, but in 40 minutes more rose 3° above it.

Jan. 18th, noon. Room 65¾°; coat off, caloricity of the left hand 97¼°; about 12 lbs. of water at 50° used for a foot bath; 5 minutes while undressing the hand fell to 95°; 5 minutes while using the foot bath, to 90½°; 15 minutes while exposed to the air, to 89°; 5 minutes without coat, to 88°.

Jan. 19th, 6 A. M. Room 54½°; caloricity of the left hand in bed 100°; arose, dressed partially, in 25 minutes, 90½°; applied water at 53° to the forehead, face, and opposite hand at intervals; sitting in a room at 62¼ deg., the back towards the fire, in 48 minutes the heat fell to 83 deg., and remained stationary 10 minutes, as long as the experiment lasted. No cold was applied to the left arm, which was clothed as usual, except the coat. The refrigeration was through the right hand and forehead, the instrument in the left hand, as in all the other experiments, was not changed after leaving bed.

9 P. M. Room 70 deg.; caloricity of the left hand 99 deg.; removed coat, vest, cravat, opened shirt collar, and in 15 minutes the heat fell to 94 deg.

Jan. 20th, 6 A. M. Bed-room 63¼ deg.; in bed, left hand uncovered 15 minutes 99 deg.; axilla 10 minutes 99½ deg.; inner and lower portion of the thighs 10 minutes 98½ deg.; groin, flexing the thigh upon the abdomen 5 minutes 101 deg.; popliteal region 5 minutes nearly 99 deg. Dressed, except coat and vest, 10 minutes 92 deg.; about 4 lbs. water at 63½ deg., applied at intervals with the right hand to the forehead and face, in 40 minutes the left hand declined to 83¾ deg., and was still falling when the experiment ended.

12 M. The caloricity of my left hand being 99 deg., the

clothes on, sitting by a good fire, the room 68 deg., the right hand and wrist were immersed in one gallon of water at 63½ deg.; in 25 minutes the left hand fell to 97 deg.; in 15 minutes to 93 deg.; (cold being also applied to the forehead several times). The right hand now wiped dry received the thermometer at 93 deg.; in 10 minutes the mercury stood at 73 deg.; in 5 minutes rose to 74 deg.

Jan. 21st, 5 A. M. Room 68°; in bed, hand exposed, 10 minutes and 5 minutes, each observation gave 98½°; popliteal region 8 minutes 100 deg.; perineum 5 minutes 101 deg.; groin 5 minutes 100 deg.; elbow, at the fold, 5 minutes 99 deg.; left hand 5 minutes 100 deg.; instep and sole 99 deg.; by increasing the bed-clothes the left hand gave in 8 minutes 101 deg. Left the bed and sponged at intervals with 1 lb. water at 65¾ deg., in 15 minutes the hand was 97 deg.; friction with a towel 5 minutes, 95 deg.; 5 minutes while dressing 94½ deg.; 5 minutes 93 deg.; 10 minutes stationary and then began to rise. In 15 minutes the axilla was 99 deg.

Jan. 22d, 6 A. M. Room 68 deg.; perineum, groin, popliteal, and hand, each, 100 deg.; thighs, instep and sole 99 deg.; while dressing, and after, the left hand fell in 15 minutes to 97½ deg.; in 27 minutes (occasionally applying water at 68 deg. to the forehead) it gave 92 deg.

10 A. M. Air 68 deg.; sat in the open air of a porch after walking several squares, the weather growing warmer 1 deg. per hour, in 65 minutes the hand fell to 78 deg., and was still declining, being then 22 deg. less than when in bed 5 hours before.

It will be seen by some of the preceding experiments, that cold air and cold water even partially applied, in rooms with and without fire, cause a reduction of the temperature sometimes 33 or 34 deg., below the natural heat; this depressed temperature so far from disappearing in a few minutes continues for an indefinite period, probably involving the whole system as well as the accessible points upon the surface, as appears, perhaps, analogically during refrigeration from applying cold to the forehead, opposite arm, and to the

feet while the rest of the body may be clothed comfortably. I felt no injurious effects from these refrigerations except, perhaps, a boil just above the knee. As hydropathists ascribe these affections, or at least eruptions, to cold applications, and as I have been entirely exempt from them heretofore, I think it proper to mention this fact. There can be no doubt that even a moderate cold steadily applied will produce a great and long-continued reduction of temperature, extending to the whole system, a fact, the pathological and therapeutic value of which, must sooner or later be appreciated in calorific excitements, irritations, congestions, and inflammations.

Magendie, with but little charity to vitalists, refers animal heat wholly to chemical changes in respiration, and says "that the blood in the living vessels is, in truth, almost as directly influenced by the temperature of the atmosphere as the mercury in the barometer."* (Lect. on the blood, p. 46). Without by any means adopting this conclusion to the fullest extent, I am inclined to think that the calorific oscillations of the body follow those of the surrounding media to a much greater extent than is generally supposed, and that in morbid augmentations of heat anti-calorifics may be so applied as to refrigerate with more or less accuracy and advantage down to the healthy standard.

And though our facts are too scanty and inaccurate to enable us to generalize with advantage, in all cases, yet I am far from thinking that the student of medicine will regard this subject as one merely speculative and devoid of useful applications.

Dr. Johnson (Med. Chir. Rev., p. 479, Oct., 1843), says, "It is now generally admitted that the temperature of animals derives its origin from a living principle; this principle, Prof. C.

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*Chaussier considers *caloricity* to be "a primary vital property, ceasing at death—augmenting with every cause that excites the vital activity." (Dunglison's Phys., v. 2, p. 201.

Caldwell (N. York Jour. Med., Jan. 1844, p. 51), "believes to be a specific kind of *imponderable matter*, as indispensable to vitality as carbon is to carbonic acid. The *materia vitae* is an essential element of living organized matter." It will be as difficult to account for the increase of heat after death upon this principle, as upon those principles advanced by Liebig, as respiration, digestion, &c.

Dr. Double, of France, and some others, say that the animal heat is depressed below the ordinary standard during sleep and in the morning. This latter so far as I have experimented is not accurate, unless by morning we understand the next hour after rising from bed. *A priori*, it might be expected that caloricity would accumulate in the body while lying enveloped in non-conductors, as blankets, and the motionless air, almost hermetically sealed by the bed-cloths during a winter's night. And such appears to be the fact. I have already offered several observations, much abridged, made in bed with both Fahrenheit's and Rèaumur's thermometers, showing the caloricity of the body under these circumstances. It appears from these experiments and the following that in 9 observations, made in bed, upon the hand, lasting a quarter of an hour each, on 11 consecutive days in January, the minimum was 92 deg., the maximum 100 deg., the average about 98½ deg., very nearly the same as the elbow, ankle, sole, instep, and thighs, the axilla being about 1 deg. higher; the perineal, scrotal, inguinal, and popliteal regions, from 99 to 101 deg.,—averaging, in 10 observations, 100⅕ deg.

Jan. 23d, 6½ A. M. Room 74 deg., in bed; hand, instep, sole, ankle, lower portion of the thighs, axillary, inguinal, perineal and popliteal regions, each 100 deg. At 9½ A. M., room 71 deg.; hand in 20 minutes gave 88½ deg.; at 11 A. M., room, 72 deg., hand in 21 minutes gave 95 deg.; at 9 P. M., room 75 deg., the hand in 15 minutes gave 99 deg.; the groin and axilla the same.

Jan. 24th, 7 A. M. Room 72 deg.; in bed, hand and axilla 100 deg.; groin, instep, thighs, elbow, and tongue, 98 deg.

each. At 9 A. M., room 74 deg.; hand in 15 minutes 96 deg. The maximum temperature of the room in which the experiments took place was 77 deg., the minimum 46 deg., the average about 65 deg.

I now offer a table, choosing 10 consecutive days, in which the records have been kept with the greatest accuracy, and with the fewest interruptions, showing the caloricity of the hand in the morning from 7 to 10; at noon, at 3 and at 9 P. M., with the temperature of the room, and that of the open air. During this period few if any appreciable circumstances, excepting those which are recorded, intervened to modify the results compared with each other. The weather was very cloudy, and the rains frequent and copious. The minimum temperature was 39½ deg., the maximum 79½ deg, the winds variable, with occasional thunder; fogs prevailed to an unusual extent.

OBSERVATIONS ON THE CALORICITY OF THE HAND.

	7 to 10 A. M.		M.		3, P. M.		9, P. M.		
January.	Temperature of the room.	Caloricity of the hand in 15 min.	Temperature of the room.	Caloricity of the hand in 15 min.	Temperature of the room.	Caloricity of the hand in 15 min.	Temperature of the room.	Caloricity of the hand in 15 min.	Weather, &c.
7	61	84	68	100	67	100			Fog—rain.
8	63½	82½				96	70	97½	Rain.
9	63½	90	69	96	70½	96	74½	99½	Foggy.
10	70½	94½	74½	91½	75½	90½	74½	98½	Rain.
11	68	94			71½		74½	98½	Rain.
12	70½	92	74½	100	74½	100	74½	98½	Cloudy—rain.
13	70½	88½					72½	98½	Light clouds.
14		94	73½	100		100	77	100	Cloudy—mosquitoes.
15	73½	94	74	99		99	74½	100	Rain—thunder.
16	72	92	72½	97½	71½	97½	72½	99½	Fog—rain—thunder—mosquitoes.

This table affords upon analysis the following results:

Average of the morning, from 7 to 10 o'clock, - 90.15°
Average at noon, - - - - - - - - 97.71°
Average at 3 P. M., - - - - - - - 97.15°
Average at 9 P. M., - - - - - - - 99.00°
Average at 6 A. M., in bed, - - - - - 98.45°

I copy the following data on the caloricity of the hand at about 9 P. M., commencing at the termination of the preced-

ing table, making a series of nineteen consecutive days, affording an average with a fraction ($\frac{5}{8}$°) over the preceding, but confirming the general result in a striking manner. Each observation lasted at least a quarter of an hour, and was noted with all possible exactitude.

It will be seen that the average caloricity of the hand in a room with a good fire at 9 P. M., does not differ materially from the average in bed, in the morning at 6 A. M. in a room without fire, and that in a few hours after leaving bed the temperature declines about 9°, but rises again by noon to 97.71°, rather declining than augmenting at 3 P. M.; at 9 P. M. it rises about 2° more.

CALORICITY OF THE HAND AT ABOUT NINE P. M.

9 P. M.			
Jan., 1844.	Hand—fifteen minutes.	Temperature of the room.	WEATHER, &c.
17	98½	65¾	Clear.
18	97½	68	Clear.
19	98½	70	Light clouds.
20	98	72½	Fog—rain.
21*	100	72½	Fogs—clouds—mosquitoes.
22	99	74½	Cloudy—mosquitoes.
23	99	75½	Clouds—mosquitoes.
24	96½	74½	Thin clouds—mosquitoes.

These imperfect statistics of caloricity constitute only a

* In New Orleans the minimum temperature of the 21st January was 50½°, the maximum 75½°, while at Montpelier, Vermont, the mercury fell, according to the Montpelier Watchman, to 40° below zero: a difference of more than 90 degrees. On the 6th January the mercury, near Montreal, was at 40° below zero, while at 8 o'clock at night the mercury was 94° higher at New Orleans. On the 12th January the mercury was reported to be 12° below 0 at Quebec, while at New Orleans, at 8 P. M., the mercury stood at 72½ above 0, or 84½° higher

part of my observations on this subject; they have been made on but a single person, and are, I admit, too scanty for safe conclusions. My observations upon morbid and post mortem caloricity are of a very different character, occupying several months of arduous investigation on many different persons, living and dead.

The hard working student will soon find after bidding adieu to the lecture rooms of his teachers that much is unknown, much unsettled, upon many of the simplest points in physiology. Even the temperature of the hand is involved in discrepancies so numerous as to show the imperfections of that science.

Much attention has been bestowed upon Meteorology, particularly by the learned Dr. Samuel Forry, whose work stands in our country without a rival. Let the same pains be taken to ascertain the laws of human temperature, healthy and morbid, at different periods of the seasons and of the day—and in different maladies in all their stages when modified and unmodified by remedial agents, and in all accessible points, and the greatest advantages will probably result.*

This imperfection in the physiology and pathology of animal caloricity, is, unfortunately for the student, but too well expressed in the therapeutics of heat, as laid down by the most eminent authors. Cruveilhier gives *enemata* in cholera, at 36°, Réau.=113° Fah., (*Anat. Path. livr.* XIV.) In the *Dict. des Scien. Méd.*, under the head *Du bain d'eau trés chaude* it is said: *il est trés chaud vers* 34° *R.*, nearly 109° F. Under the same terms, Prof. Hatin, of Paris, (*Méd. Opérat.* p. 73,) gives the hot bath at the temperature of 36° to 40° R.,—113°

* The difficulty, perhaps impossibility, of tracing any absolute connexion between the meteorology of the seasons and their epidemics, is set forth in the following passage:

"Pendant 10 années consécutives le Rapporteur de la Commission a publié trimestre par trimestre; l'histoire des maladies regnantes á Paris rapprochées des caracteres des saisons dominantes: il doit á la vèrité de déclarer que si ce travail ne lui a que peu serie pour remonter aux causes des grandes épedémies, il lui a éte très utile pour le divageur dans ses exercises cliniques.—*Comptes Rendus, tome 9im. p.* 515; 1839 *q. Rapport par M. M. Arago et Double.*

to 122° Fah. Yet, Laurent, (*Dict. de la conversat.* v. 12, p. 345, Paris, 1834,) says that a temperature of 104° Fah. can be supported only a few moments without danger: "L'application des corps solides chauffés jusqu'—40° cent. (104° F.) ne peut être supportée quelques instants sans danger." Dr. J. Bell fixes the hot bath at and above 98°; at that point the line of agreeable warmth is past. (*Baths and Min. Wat.*) De La Roche could not support above ten minutes and a half a *vapor bath*, which at first at 96.5° Fah., rose in eight minutes to 124.45°, and afterwards fell one degree. Berger was obliged in 12½ minutes to come out of a vapor bath, the temperature of which had risen from 106.25° Fah. to 128.75°. He was weak, and tottered on his legs, and was affected with vertigo.

In water a still lower temperature becomes insupportable. Lemonnier, being at Bareges, plunged into the hottest spring, which was 113° Fah. He could not remain in it above eight minutes. Violent agitation and giddiness forced him out. (Trans. Jour. Med., v. 9, p. 547). Let these facts be borne in mind. We shall see in the thigh a *post-mortem* heat which is here pronounced insupportable even for a few minutes.

Copeland (Dict Med., art. Cold), says, that man cannot exist for any considerable time in a mean range of temperature above that of his own body. In no part of the globe is the mean annual range of atmospheric heat within twelve degrees so great as that of the living frame.

Morbid caloricity it would seem may augment to such a degree as to cause the combustion of the body. This curious, and apparently well authenticated malady is, in some cases, not suddenly fatal, being local or partial in its action, as was the case with the Priest Bertholi, who lingered to the fourth day. A considerable number of fatal cases of spontaneous combustion have been reported by the physicians and by the judicial officers of different nations, as may be seen in the periodicals and medical encyclopedias. Prof. Short, of Louisville, Ky., reported a case a few years since in the Trans. Med. Jour., v. 3, p. 142. Partington, in his British Ency.,

(London, 1835), v. 1, p. 346 *et. seq.*, reports many: among them, the cases of the Countess Cornelia Bandini, Grace Pitt, Mary Clues, Jean Millet's wife, Mary Jauffret, widow of Nicholas Gravier, Mdlle Thaurs, a woman in Massachusetts, (16th March, 1802), a case from the Transac. Soc. Copenhagen, with other circumstantial histories.

If we admit the possibility of open combustion in the living body, can we hesitate to allow the possibility of an imperfect, smouldering, semi-combustion, or, at the least, a morbid heat, in the tissues during intense fevers? Magendie, not less distinguished for his physiological researches, than for his bitter denunciations of pathology, "that science which," according to him, "does not yet even exist," asks with apparent triumph, "what sense, in truth, is there in applying the word inflammation to our organs? Do our tissues really take fire? I confess I know of no example of such a phenomenon. When the blood rushes to a part in abundance, a certain rise of temperature, no doubt, occasionally follows; but it only reaches but a few degrees above the normal standard of the organ and never exceeds that of the blood in the left ventricle." (Lect. on the Blood, p. 32.) Now, as he refers heat solely to the chemistry of respiration which raises the blood only 1°, the left ventricle is therefore only 1° hotter than other parts. (Vide Phys).

At one moment Magendie declares that the temperature of the body depends upon the passage of the blood through the tissues, and at the next, he ascribes the heat in inflammation "to the accumulation or arrestation of the blood in the part!" (p. 25). Plain contradiction! So of the lungs. They make the heat, and yet they make the cold too, whenever it is necessary, as when a man enters a red-hot furnace. He expressly says that they are "an admirable cooling apparatus," and yet in his Physiology he says they are "the centre from which animal heat is developed." The histories of morbid and post-mortem temperature, which will be given, will show whether these assertions are stronger proofs than facts them-

selves, even though unconnected with theoretical fortifi cations.

It is proper to state that no special theory of fever will be attempted in this paper. It is not pretended that mere heat is alone sufficient to explain all the phenomena of fever.

With respect to post-mortem fever, which is perhaps nearly uniform, to a greater or less degree, let it be observed that circumstances, not necessary to mention, often prevented me from ascertaining the febrile caloricity until after it had declined more or less, so that the body had already felt the influence of the surrounding media. The morbid caloric may in some instances flow from the centre outwardly for a time more or less prolonged. But when it begins to leave the limbs it falls with great rapidity under the dominion of the atmosphere: the centre then becomes comparatively much the hottest, until near the commencement of putrefaction, at which time the entire body nearly coincides with the atmospheric temperature. In rare cases, where much blood has been lost, especially by the lancet, the heat augments but little, scarcely as high as in health, though probably higher than it was some hours before death; in these cases, muscular contractility is usually feeble and transient; rigidity is tardy and imperfect.

The doctrine of a post-mostem fever, or morbid heat, if sustained by facts, deserves neither sarcasm nor ridicule. Will any one pretend that respiration, or arterial circulation, or the nervous system acts with increased power after death? Yet, theorists ascribe animal heat to one or all of them with the confidence of a mathematical truth, in defiance of the antagonism of facts. The admirable Bichat says: "To derive general principles from facts—who are we, that we should turn away from this path?"

Broussais, who upbraids the ancients for "considering fever as an unnatural heat, (Path., p. 110), seems to ascribe to its physiological action an omnipotent power. Caloric is the first and most important of all stimulants; if it ceases to animate the economy, others lose their influence over it; all the pre-

servation, recuperative, and sanative phenomena cease. Caloric brings into play the unknown power, which constructs the organs." (Prop. ii, iv, v, Path). Now, in his first pathological proposition, he says, "health is the regular, disease the irregular exercise of the functions," and, of course, any great irregularity in the calorific condition must constitute disease in the same degree.

Among the preceding authorities the discrepancies as to temperature are sufficiently discouraging, but many of them probably grow out of the fact that the exact modes of investigation have not been identical. In making an experiment, all the modifying circumstances, as well as each step of the operation, ought to be attended to and made known. For example, let us suppose that the air is 40°; the thermometer at this temperature is taken into the hand at 109°; or, suppose that it is introduced into the middle of the thigh at 113°: here the parts in contact with the thermometer are necessarily robbed of much heat; 69° to 73° must be given to the instrument to be replaced, slowly, by heat conducted from, perhaps, the whole mass of caloric. In the experiments upon post-mortem caloricity, I have generally guarded against such errors by taking sufficient time. I may have erred occasionally by neglecting to prolong the experiment sufficiently.

Some account of the circumstances under which this inquiry upon animal temperature began may not be improper. Although the heat of the dead often struck me as remarkable, yet I did not suppose that it increased after death, until, during the last year, I determined to turn my attention to the following question: What are the most certain signs of death? Among many things, heat presented itself as one element worthy of investigation. This inquiry became the more interesting in consequence of certain acts of the Board of Administrators of the Charity Hospital in the summer of the year 1843. Upon this subject a little digression may be proper. Among other things, a rule passed forbidding post-mortem examinations, until six hours after death. The Board consisted of distinguished citizens; fortunately for the cause

of science, they did not enforce this rule; neither the faculty nor the public seemed to think it necessary. The New Orleans public, ever charitable to the living, cares not to introduce, or patronise, absurd prejudices about the dead,—prejudices which elsewhere have trammeled the progress of the healing art. Common sense, in spite of any speculation, finds no difficulty in deciding that the fever subject, after undergoing the fatal symptoms, under the eyes of the physician and others—after ceasing to breathe, &c., is dead. Thought, sensation, pulsation, locomotion, every possible relation to the external universe, and existence itself, are no more. In swooning, asphyxia, hanging, drowning, epilepsy, &c., doubts may sometimes exist. If the living body be committed wholly to the charge of the physician, why not the dead?

The surgeon, who mutilates for the mere *eclat* incidental to operations,—the physician, who needlessly subjects his patient to hazardous medications,—the pathologist, who would proceed to *post-mortem examinations*, with even a doubt upon his mind whether the subject was dead, in the common acceptation of the term, would deserve the utmost execration of mankind.

The frightful stories of Bruhier, (*Dict. des Scien. Med.* t. 25, p. 174,) seem to have long terrified both the public and the faculty in the old world. He reports 180 cases of persons reputed dead, who were not so: 60 interred alive; 40 opened before death; 53 returned spontaneously to life, after having been laid out in their winding sheets; 72 reported dead, were alive. These, and similar statements, have caused some benevolent individuals to leave annual prizes to those who should discover the most certain signs of death, with a view to prevent premature interments.

The more this topic has been elaborated by learned men, the less unanimity appears to have resulted. The unlearned nurse readily recognizes the physiognomy, and other signs of death, though perhaps unable to describe them with certainty. No one, it is believed, after apparent death from fever, in New Orleans, has ever been known to return to life: this,

practically speaking, is death. The French Academy records a marvellous case, noticed by Baron Larrey, in which a French officer, (M. Morel,) then living, was taken for dead in two instances, and buried as such. "M. Julia Fontenelle transmet une observation tirée du cinquième volume de la clinique de M. Larrey et la quelle il résult qù un officier français (M. Morel) encore vivant á été doux fois enterré comme tel. (Com. Ren. T. 2, p. 257, Mai 1836.) The Academy occupies itself much upon this subject: it has been appointed to award (décerner) prizes in relation to its elucidation, but appears to incline to the test by putrefaction!

M. Donné, in a letter to the Academy upon the signs of death drawn from the alterations of the globules of the blood, remarks, that "tout en reconnaisant, que le signe le plus certain de la mort, le seul que soit á l'abri de toute erreur dans les cas douteux, est la putréfaction." (*Com. Rend.* T. 6. p. 345.)

Some of these *savans*, not satisfied with a delay of twenty-four hours as fixed by the French Code, wish the period protracted: "M. de Brière écrit relativement aux malheurs qui peuvent résulter des inhumations trop precipitées. Il désizerait que le *délai de quarante-huit heures*, dit-il, a lieu en Angleterre et Bavière, fut adopté en France." (*Ibid.*)

Lastly, a medical writer, in Paris, during the year 1843, insists on putrefaction,—greenness of the tissues, &c., as the only certain tests, requiring about three days! But in the steady cold of winter, this might require as many weeks before greenness, &c., would appear.

If putrefaction be regarded as the only certain test of death, then, adieu to all confidence in post mortem examinations, as the means of ascertaining morbid appearances and of guiding to sound pathological deductions. Magendie, who sometimes is quite skeptical, says, "I set but little value on minute examination of the traces left by disease upon organs, though that pursuit has been pompously styled pathological anatomy: are you not in truth convinced that the lesions found at our autopsies are frequently produced after death, and that conse-

quently the plan hitherto followed in such inquiries is fallacious, and can only lead to vague information and error?" (Blood, p. 276.)

The February No. of this Journal, for 1843, containing a part of my observations upon the fallacious results incidental to late dissections, was sent to one of the most illustrious pathologists in Europe, Louis, of Paris. In a letter which I had the honor to receive from him since, he speaks upon this subject in the most decided language. This testimony is not only of the greatest weight in itself, but displays a candor, a love of truth, which an author wholly influenced by sordid self-interest would neither feel nor exhibit, since some of M. L.'s own distinguished works have been based on dissections more or less tardy. Dr. Louis says:

"Au sujet de L'anatomie pathologique, vous avez fait sans doute ce qu aucun médicin nà fait jusqú ici; une il úa été donné à personne á part quelques circonstances infiniment rares, de faire des autopsies quelques minutes seulement après la mort, quand la roideur cadavérique (une des signes le plus certains de la mort) n'existe pas encore à beaucoup par; vous avez vous pu voir ce que peu de personnes ont vu, constater des lésions susceptibles de s'effaçer promptement; et si vous avez pu receuillir très en détail, et jusqu'à la dernière heure des malades, les symptomes qú ils eprouvés vous feriez une chose très utile à la science de publien ce que vous avez vu."*

From the above extract, it would seem that Dr. Louis regards cadaveric rigidity (*rigor mortis*) as one of the most certain signs of death.

At the present time, the medical faculty in New Orleans appear to be unanimous in the opinion that late dissections must

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* "As to the subject of pathological anatomy, you have done, without doubt, that which no other physician has done till now; for it has been given to no person, to make post mortem examinations a few minutes only after death, when cadaveric rigidity (one of the most certain signs of death,) exists as yet to no great degree. You have been able to see that which few persons have seen,—to establish lesions susceptible of changing quickly; and, if you have been able to collect in detail, and until the last hour of the patients, the symptoms which they have experienced, you will do a thing very useful to science to publish what you have seen."

lead to results more or less fallacious, and, some go so far as to declare that a dissection, after even six hours, is more likely to mislead than to instruct. New Orleans, happily, is free from those prejudices, which in some parts of the Union punish as a felony the taking of the dead for examination—a punishment seldom inflicted for stabbing, shooting, or otherwise slaying the living, in these days of legal ingenuity. At one of the first dissections (after the act of the board), where the body had been kept six hours, the medical gentlemen abandoned the examination, unfinished, on account of the obscurity cast on it by post-mortem discolorations; a learned anatomist, now no more, was present, and expressed the same views—this was Dr. HARLAN. A few weeks after, in the midst of the labors incidental to the epidemic yellow fever, he fell suddenly with apoplectic symptoms, and so little did *he* fear premature dissection, that he requested (as I was informed) that his body should be examined in ten minutes after death.

It was, therefore, during my researches upon the signs of death, (the results of which I may publish hereafter), that I accidentally ascertained the existence of a post-mortem fever, or caloricity. I then turned my attention to the calorific history of the living body, covering the whole ground from the second hour of the fever to the period of putrefaction. The symptoms and treatment of those who recovered, and of those who died, including post-mortem examinations, I will be obliged to omit and to restrict myself to temperature alone, hoping that these observations, however imperfect, will contribute something to fill up an evident gap in febrile pathology. Whether pathology shall settle down into solidism, or run into fluidism—whether it shall take the symptomatic or idiopathic, the chemical, mechanical, or modified vital form, one thing is certain, the *positive* alone should guide us. Caloric is the great motor of the universe. Its pathological relations, combinations, and deteriorations, solar, terrestrial and animal, ought to be studied in preference to hypothetical agents, unknown gases, or vital metaphysics. It is no aggression—no violation of the sanctuary of vitalism, to take from it any of

its supposed holy vessels, which may of right be claimed by the laws of simple physics or chemistry. It is often a clear gain to the cause of truth when any supposed vital law is shown to be identical with those of mechanics, hydrostatics, pneumatics, electricity, caloric, or chemistry.

As to the supposed good effects of febrile heat, compared with coolness of the skin, noticed by Dr. Chyene, (Bartlett's Typ. Fever, p. 264—'5), the circumstances, the stage of the disease, &c., are not given with sufficient particularity. Heat, like the blood, may have a congestive character; the skin may be colder than natural, while the heat is centralized even in algid cholera, in which the skin is icy, while the patient complains of the most intense burning heat inwardly. Prof. Cruveilhier found, when about to make his autopsies, in cholera subjects, that they were hotter (how much he does not say) than during life—"Froid beaucoup moins prononcé que pendant la vie." (Anat. Path. Livr. xiv. p. 26.) As illustrative of this subject, and the origin of this investigation as mentioned above, I will here recount a part of my observations, in the first case in which I took the post-mortem temperature. The heat, in this case, was less than in many others—the history is less perfect—no positive thermometrical data had been recorded before death. The skin, during the two last days of the malady, was so remarkably cold, that some medical gentlemen regarded the case as congestive, rather than yellow fever; but the history, as well as the autopsy, fully satisfied me that it was the latter. The stomach contained 12 ounces of black vomit.

A native of the United States, born about the 40th degree N. latitude, aged 25, late a steamboat man in southern Louisiana, resident in New Orleans two weeks; died of yellow fever Aug. 7th, 11 A. M., 1843, after an illness of four days and a half.

Air of the dead house 83°. Experiments began 20 minutes after death: axilla, 5′ 108°; under the tongue, 5′ 103°; epigastrium, 5′ 108°; 5′ same; perineum simply closing the limbs, 10′ 104°; centre of the thigh, 10′ 109°; tongue, 10′

100°; epigastrium, 5′ 109°; axilla, 5′ 104°; thigh, 5′, old incision which had been made too large, admitting the air freely, 107°; 3 successive obs. in different parts of the abdominal cavity, each lasting 5′, gave nearly 107°. Experiments now ceased 1 hour and 35 minutes; resumed 3 hours and 20 minutes after death. Dead house, 81°; epigast., 10′ 104°; outer side of the lungs, 10′ 103°; base of the right lung, 5′ 104°; between the liver and diaphragm, 4 hours after death, 104°. Temperature of the brain not taken. The body rested on a stone floor, which was placed directly on the ground—no cover but a linen sheet, which was removed when the experiments began; the room much ventilated—brisk winds, with heavy showers of rain, during the observations.

In this case the coolness so remarkable to the touch disappeared in 15 minutes after death. The axilla at 25′, and the epigastrium at 40′, both gave 108°, while the thigh, 1 hour after death, gave 109°; in 1 hour 15 minutes the epigastrium attained the same elevation as the thigh. This, the culminating era of the morbid caloricity, was followed by a gradual but slow declination, differing much from simple atmospheric refrigeration, inasmuch as the thigh and the epigastrium, and other abdominal regions, after trials for twenty-five minutes, gave exactly the same temperature. Refrigeration from the surrounding *media* progresses from the circumference to the centre, until the putrefactive period, when the air, the surface, and the centres, coincide very nearly. The body exposed to a hurried, brisk wind, at 81°, for a period of four hours, gave in the centres, 104°—that is, 4 or 5° beyond the healthy heat.

I have already copied from my MS. volumes, 162 calorific histories, which, with a few more made during the present winter, (1843—'4), will complete the series. I own I am not without some fears of making a premature publication, as this inquiry has occupied me for a much shorter period than any other great branch of febrile pathology. And, if one so humble might be allowed to apply to his own case, the words of so distinguished a man as Sir Benj. Brodie, I would say, "that

one principal result of my labors has been to convince me that life is not long enough for these difficult researches; that the utmost which can be accomplished by the zeal and industry of an individual is to make such progress in the study of pathology as may enable those who may come after him to carry their inquiries farther; and that the expectations of any one who aims at higher objects than these must terminate in disappointment." (Am. Jour., Oct. 1843.)

Few, except those who have gone over the same ground, can imagine the labor and irksomeness of these dismal researches along the frontiers of death. Silent, alone, sitting for hours on a coffin, among dead bodies bearing on their saddened faces the impress of the last agony, watching the wanings of a lingering vitality and the steady advances of the great annihilator, decomposition, with scalpel, pencil, book, and thermometer, like Sterne's prisoner in the dungeon, who etched down with a nail his diurnal history—these are circumstances that fiction cannot heighten; pursuits that honest Charon, the ferryman to ghosts, upon the dark and polluted Styx, would scarcely undertake. The fabled shades, Sorrow, Fear, Sleep, Night, Sickness, and Death, and the Valley of tears, might very well be located in and round about hospitals and dead houses.* The moral associations they fix upon the minds of their inmates are often unfavorable in a medical point of view.

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*Eugene Sue, the celebrated novelist, in *The Mysteries of Paris*, has drawn a dark, but too true a picture, of the moral, mental, and medical influences which reign in the wards of a crowded hospital. The shame, disgust, and inconvenience, (especially to the female patient), incidental to interrogations and examinations, repeated at pleasure, by physicians and students, before company, by day and by night, have not been at all exaggerated: to these have been added, the fear of dissection after death,—a fear not the *less real* because it is *absurd*: "Ah! it is horrible! said Clèmence, shuddering with affright. One must come here [to the hospital] to know that there are, for the poor, misery and alarms even beyond the tomb." Sue makes his scientific Dr .Griffon too fond of experiments upon the poor,—too brutal in his speeches before his patients, upon the fine morbid specimens that their bodies will afford, and, in directing his student to cut the initials of his name upon the corpse of the actress in the presence of the sick, preparatory to dissection.

Romance, imagination, reason, nay, science itself, "serve but to light the troubled way," giving a greater force to the bitter realities, always transpiring before our eyes, in these institutions, and at the bed side. However wise it may be in the multitude to repel such ideas by gay illusions, the physician, from his avocations, cannot long enjoy them. He will often think in the following strain, with a veteran medical journalist—a passage, by the way, very much like one I have seen in some of Voltaire's works: "Man is the only animal in existence who knows or even thinks he must die. This piece of knowledge seems to be a necessary accompaniment of REASON, and no small drawback upon the pleasures of that boasted gift! It is a prescience which embitters a great portion of the life of man! On which side does happiness predominate? On that of man or that of beasts? Those who have lived longest in this world and seen most of human nature, will have little hesitation in casting the balance in favor of animals. The young and the sentimental will come to a different conclusion. The knowledge of literature, arts, sciences, so far as happiness is concerned, is rather a curse than a blessing." (Med. Chir. Rev., Jan. 1843). I make no apology for thus "heaving a moralizing," if not a scientific sigh, upon this subject—the affectation will be found on the side of levity and insensibility. But leaving the mental pathology, I will in the concluding part of this essay, confine myself to the physical, the positive alone. Here, if anywhere, the Genius of Pathology, like the dove which returned to the Ark, finds rest for the sole of her foot, and seeks among the dead that which may be useful to the living.

New Orleans, March 30th, 1844.

[TO BE CONTINUED.]

ART. II.—*A Case of angular Anchylosis of the Knee Joint, treated on Dr. J. R. Barton's plan by* PLATT BURR, M. D. Reported by ANDREW R. KILPATRICK, M. D., of Woodville, Mississippi.

Among the new operations in surgery, that of Dr. Barton, for *Anchylosis*, occupies a conspicuous place, and if that gentleman had done nothing more, this alone would have been sufficient to enrol his name with the worthies who preceded him, and hand it down to the latest posterity. Cases which were formerly abandoned as irremediable, and the subjects of which were suffered to drag out a miserable and helpless existence, or subjected to the remorseless quackery and torture of "*Bonesetters*," can now be relieved and placed in a situation comparatively easy and independent.

The following case occurred in the practice of my friend, Dr. Platt Burr, of Cheneyville, La., who has requested me to report it for him:

Sam, a negro man, æt. 40 years, of stout frame, and good general health, while engaged, on the 12th December, 1840, in hewing a log, accidentally let the broad axe slip, and the corner of it struck the left knee with considerable force, on the inner side, and penetrated the side of the head of the tibia close to the patella. The wound was not more than an inch long, and soon healed up, although there was slight pain in the part. By exposure and active exercise, the knee was swollen rapidly to a very large size, and that, together with the pain, disabled him for work and forced him to take his bed. Medical aid was called in and efforts were made to check and remove the pain and inflammation, but without success. The whole limb became enormously enlarged, suppuration came on, and a great quantity of pus was discharged at three several openings, above and below the knee. The purulent discharge ceased, the limb was reduced in size, the muscles were flaccid, and the skin was loose, dry and crusty, so much so that when rubbed or thumped it emitted a sound like that

of coarse brown paper or dry raw hide. The knee still continued unnaturally large, and the skin on it was tight and glossy. As he suffered less pain when the leg was flexed, he was permitted to keep it in that position so long that it became fixed; the synovial fluid and membranes were destroyed, the femur, tibia and patella all united firmly together as if they were a continuation of one bone, and from the firm adhesion which had taken place considerable force would have been required to disunite them. When he was seated no one could perceive that any deformity existed; but on his assuming the erect position, his leg and foot projected backwards at a right angle with the other leg. His master despaired of his ever being cured, or benefitted by any surgical assistance, and had concluded to apprentice him to a shoemaker that he might be of service to him in that way. Before acting on this determination, however, he requested Dr. Burr to examine him, when, from the appearance of the limb, the general health of the patient, and his robust constitution, he concluded he could perform Dr. Barton's operation with safety, and Mr. Brown, the master, consented to a trial of it, the patient himself being willing to submit to any thing which promised an amelioration of his condition.

After the patient was duly prepared to undergo the operation, Dr. Burr sent for me to be present and assist him; Dr. Ingersoll and several gentlemen of the vicinity were also present. The day was quite cold and raw. As before stated, the thigh was flaccid, skin loose, knee large, the patella projecting boldly out and adhering firmly to the condyles and tibia.

On the afternoon of the 8th December, 1841, being one year, wanting four days, from the time of the injury, the patient was placed on a table with his legs hanging down over the end, his body and arms being held by assistants. I attended to the parts to be operated on, adjusting the skin, &c. The first incision was made by commencing at a point opposite to the upper and anterior margin of the external

condyle of the femur, and passing obliquely upwards across the front of the thigh, terminated on the inner side. The second incision commenced also on the outer side, about three inches above the first, and passing obliquely downwards across the front of the thigh, terminated at the point of the other incision, thereby forming an acute angle. The integuments, the extensor muscles, part of the vastus externus and internus and the crureus were divided by these incisions. The triangular flap was then dissected up from the femur close to the condyles and the soft parts on either side were pressed down out of the way, so as to admit of the free use of the saw. The only knife employed in all the operation was the common scalpel.

The flap then being turned up and held out of the way, a common amputating saw was used, and by inclining it, a wedge-shaped piece of the femur was taken out, about two and a quarter inches at the base, and three lines at the apex. The femur was not completely divided by the saw, as was suggested by Dr. Barton, but about three lines were left undivided, which was fractured by forcibly drawing the leg back, and the spiculæ thereby formed answered the purpose admirably of keeping the extremities of the bone in their proper place; and moreover the danger of injuring the popliteal artery was thereby avoided.

The time required for the operation was about five minutes. There were three small arteries divided which required ligatures; when they were secured the flap was returned to its place, secured by a few sutures, the ends of the ligatures were brought out and fixed, and adhesive strips and light compress and bandages completed the dressing.

Before moving the patient from the table, the limb was placed at the same angle of flexion it was at before the operation, on a double-inclined plane similar to Amesbury's apparatus, with a moveable cross piece to regulate and fix its angularity, and a foot piece with a shoe attached to it. The plane was rendered comfortable by long bags of carded cotton, suited to the shape of the parts and so adjusted as to

prevent pressure or friction upon the popliteal region. The limb was kept in that angular position for some weeks, until it was thought the spiculæ and asperities of the bone were either absorbed or covered by deposite. The sutures and ligatures of the arteries were properly attended to and removed. Adhesion of the soft parts progressed rapidly and regularly to complete re-union, with little pain or trouble.

By means of the brace on the apparatus the limb was gradually straightened until brought very nearly straight, but agreeably to the suggestion of Dr. Barton, a very slight angularity was maintained intentionally, in order to prevent his heel, in walking, from striking against any obstacle or inequality which might be in the way. The double-inclined plane was then thrown aside and the limb placed in the ordinary straight box used in common fractures, where it was kept for better than three months, at the expiration of which time he was allowed to move about on a crutch, as the bones had knitted together pretty well.

In the month of June, 1842, he could walk about on his leg very well, even without the use of a staff, and in fact went to work. But on the 15th of July of the same year, in attempting to mount a ladder he missed his footing, and in the fall broke his leg again at the point of operation. As he had complained of his foot hurting in the instep, at the metatarsus and toes, especially when he walked much, and when standing on logs chopping, when it was reset the last time it was placed in the straight box without any angularity, being quite straight. No bad results followed this fracture, and in less than two months he was able to be up and about again, and could walk very well without crutch or staff. It has been thought by some who were acquainted with this case, that the adhesion of the bones was thereby rendered more firm. During the whole time his general health was unexceptionable.

On the 15th April, 1844, I saw Sam at his master, Mr.

W. R. Brown's, on Bayou Bœuf, Louisiana, busily engaged spading up the garden. He told me that he could hoe and chop with as much ease as he ever did; that ploughing was not irksome to him; and Mr. B. said he was nearly as serviceable as ever. There is no pain or swelling after a day's labor, but his limb appears as sound as ever.

May, 1844.

REVIEWS.

ART. III.—*A Treatise on the Nature, Causes, and Treatment of Erysipelas.* By THOMAS NUNNELEY, Lecturer on Anatomy, Physiology, and Pathology, in the Leeds School of Medicine; Surgeon to the general Eye and Ear Infirmary; Honorary Secretary to the Philosophical and Literary Society, &c. &c. Philadelphia: Ed. Barrington & Geo. D. Haswell. 1vol. 12mo. pp. 235. 1844.

Our profession is under many obligations to Dr. Bell, of Philadelphia, whose judgment, independence and learning fit him very eminently for the editorial tripod, which he has occupied for many years. As a critic his decisions are entitled to high respect, and the works which have been re-published by his directions have been stamped by so much excellence, that it is a sufficient passport to public favor that a volume has appeared in the *Select Medical Library.* The work which stands at the head of this article has been published very opportunely. At a time when erysipelas is prevalent in many parts of the country, and in some has assumed a highly malignant form, a treatise describing all its varieties, and the best modes of treatment—in a word, a full and complete monograph on the subject—will be highly acceptable to the profession. Dr. Bell has judiciously added to the work of Nunneley an account of epidemic erysipelas, as this disease has exhibited itself in this country. This portion of the volume will be read with deep interest by all, who have not made themselves acquainted with the nature of the disease which has prevailed with great mortality, in certain localities, under the name of "*black tongue.*" But the work in

its entireness is one which will be accounted necessary to every physician's library. It is not our purpose to enter upon an extended review of it, but simply to notice such parts as it is supposed are especially interesting at this time.

Our author thinks the following affections may be grouped together, namely: erythema, eyrsipelas, diffuse inflammation, of the cellular membrane, puerperal fever, diffuse inflammation of the serous membranes, diffuse inflammation of the mucous membranes, arachnitis, diffuse phlebitis, and inflammation of the absorbents, all of which are treated of, to some extent, in this valuable work. The details under the various heads are curious and instructive, and those which relate to puerperal fever will be found exceedingly interesting. Among the inferences to be drawn from them is an important one, that the most serious consequences are apt to flow from a wound received on the hand or fingers in dissecting the body of a patient who has died of that complaint. Many cases are cited in which the pricking of the finger, in dissections of bodies affected with erysipelas, was followed by fatal disease. Most readers will be surprised to find puerperal fever and wounds of the dissecting room in the same class, and to see these grouped with the other forms of disease recited, but taking the facts stated by our author as true, we cannot see how his conclusions are to be resisted. We shall, however, pass from this question to matters of more practical moment.

Dr. Sutton's paper on epidemic erysipelas introduced into the volume by Dr. Bell, illustrates the extension of the disease to the mucous membranes. We quote the following from Dr. S.'s description of the complaint:

"This epidemic has assumed a variety of characters, often presenting a difference in different neighborhoods through which it passed. I have had an opportunity of becoming acquainted with the disease over a large section of country, having the most of the Wilmington practice to attend to, owing to the physician of that place having a severe attack of illness, during the time the disease was raging with the most violence; and from the intimate connection which appears to exist between the different characters of this disease, I have

considered the epidemic as an inflammatory disease, of a peculiar character. It attacks the mucous membrane of the respiratory passages; the tongue; the glands of the throat; the skin in the form of erysipelas; the lungs and thoracic viscera; the uterus, and its appendages, producing puerperal fever; as this last disease in several places, has also accompanied the epidemic. This disease, in every variety, has had a tendency to assume a typhoid grade of fever, after it had continued a few days.

"The following is a synopsis of the simptoms of this epidemic. When the throat was the part attacked, after the usual premonitory symptoms, which have been frequently mentioned, had continued for two or three days, the patient was generally seized with a chill, which lasted, in many cases, four or five hours; this was followed by a high fever, swelling of the tonsils, submaxillary, parotid, and lymphatic glands of the neck; neuralgic pains, darting over the side of the neck and head, frequently following the temporal artery; tongue, covered at first with a thick brown coat, soon became swollen and often very dark in the centre; deglutition frequently very difficult; pulse generally full, though easily compressed; skin at first hot and dry, becoming moist and continuing so after venesection. In the mild form of the disease these symptoms were frequently removed at once by an active antiphlogistic course of treatment. Sometimes the mild form had only the appearance of cynanche tonsillaris. But in the more malignant form, where the throat was affected, after the above symptoms had continued for two or three days, and sometimes from the very commencement, the pharynx became of a dark purple color; this color generally spread over the palate, tongue, and sides of the cheeks, the tongue becoming very much swollen, assuming a blackish-brown color; deglutition in many cases was almost impossible. In most of these cases an erysipelas would commence at the angle of the mouth, or nose, and spread over the face and head, with all the symptoms peculiar to that disease. The inflammation of the throat was seldom stationary; sometimes passing down the trachea, with symptoms resembling laryngitis, or cynanche trachealis, and at last assuming the symptoms of pneumonia. Sometimes this inflammation passed into the nostrils, and from them into the frontal sinuses; sometimes apparently into the antrum maxillary, but in nearly every case that I saw, the *throat became well, while the erysipeles was spreading over the skin.*

"Sometimes this disease appeared to commence in the fron

tal sinuses and antrum; large quantities of water would be dischared from the nose, a violent pain felt over the eyebrows, or one of the malar bones, the face becoming very much swollen, the swelling closing the eyelids. These symptoms generally continued until an erysipelas made its appearance, or there was a copious discharge of bloody mucus from the nose. In the case that I met with, the neck was enormously swollen, from the left ear down to the sternum, without any redness of the skin, or but little inflammation of the pharynx; this swelling rapidly subsided, and was followed by a profound coma that terminated in death. This disease seldom presented the putrid symptoms of *cynanche maligna* and in those cases that it did, I believe the cause might be traced to the imprudent use of mercury. In a number of cases that I met with, the inguinal glands were the seat of the disease, becoming very much inflamed, and an erysipelas first making its appearance there, and spreading over the abdomen."

Treatment.—Dr. Sutton used blood-letting from a large orifice, and the antiphlogistic treatment generally, bearing in mind the tendency of the disease to a typhoid character. Copious v. s. from a small orifice he thinks was injurious. He adds:

"When the throat was attacked, emetics, followed by mercurial cathartics, nauseants, blisters, liniments, and sinapisms to the throat, pediluvium, acidulated and pepper gargles, scarifying the tonsils, and when the throat was ulcerated, the application of a solution of nitrate of silver was the course generally adopted, and in a large number of cases the bleeding, the emetic, and mercurial cathartic cut short the disease at once. In administering mercury in this form of the disease, a few doses generally filled the indication, and, as I before mentioned, great caution was necessary; for wherever it produced its specific effect upon the mouth and salivary glands, I believe it was almost invariably attended by injurious consequences. When the erysipelas made its apperance upon the skin, it was treated according to the character that it assumed, and its accompanying fever. Alterative doses of calomel and ipecac, (carefully avoiding ptyalism), followed by saline cathartics, antimonial diaphoretics in the robust; wine whey, carbonate of ammonia, Dover's powder, in combination with calomel, followed by gentle laxatives, when the disease had assumed a typhoid character. As a local application to the

erysipelas, a solution of the sulphate of copper, and the sulphate of iron as has been highly recommended, appeared to produce good effects. However, in many cases, when the skin was not blistered, influenced by the resemblance the disease had to a burn, I was induced to try the spirits of turpentine, which I thought produced the very best effects."

In the stage of collapse, quinine is to be given, in conjunction with the diffusible stimuli. Opium and tartrate of antimony are prescribed in conditions where the brain is affected, attended with a low muttering delirium.

Our author discusses the treatment of erysipilas at great length. The authorities for and against the various plans of cure recommended in the disease are fully stated, by which the reader will be able to gather the views of all the schools on the subject. Some insist upon blood-letting to the exclusion of stimulants, and others upon stimulants to the exclusion of venesection, while a third class, without forbidding the use of the lancet, recommend the use of stimulants. Emetics are in the same predicament—extolled by some, and condemned by others. Our author inclines to their employment. Even purgatives have not been able to command the unanimous suffrage of the profession; but Dr. N. justly regards them as amongst the most valuable remedies we possess in the treatment of erysipelas. Preparations of mercury, diaphoretics, and diuretics, digitalis, colchicum, antimony, narcotics, turpentine, and camphor, are enumerated as among the general means of cure, to be prescribed according to the judgment of the practitioner. The local remedies recommended, are bleeding, by cups, leeches, punctures, and incisions, cold lotions, stimulants, farinaceous powders, warm fomentations, ointments, the actual cautery, and blisters, nitrate of silver, tincture of iodine, and bandages. The treatment applicable in the different varieties of the disease is given at the close of the work, and will be found sufficiently detailed. We must refer the reader to the treatise itself for particulars, which would extend our notice beyond the limits necessarily assigned to it.

Erysipilas is a frequent disease of hospitals. The atmosphere of such institutions becomes tainted at times, and patients introduced with other diseases are attacked, from slight causes, with erysipellatous inflammation. During the few last months we have been presented with some striking illustrations of this fact in the Louisville Marine Hospital, where erysipelas has been showing itself in the subjects of other complaints. Several cases appeared in February, and others have existed at different times since, the disease having been induced by trivial injuries of the skin. In one instance it followed the application of a blister to a syphilitic node on the shin, but was easily arrested by drawing a line around the inflamed spot with nitrate of silver. In a second case, it succeeded to a slight surgical operation on a young man, and in that case was attended by alarming constitutional symptoms, which were only subdued by the most energetic treatment. In a third, it supervened upon leech-bites, and terminated fatally. The subject was a young man, eighteen years of age, who was taken to the hospital on account of insanity. He was of a delicate constitution, which had suffered much from indigestion. Leeching having been practiced over the epigastrium, and again, in two days, on the spine, between the shoulders, erysipilas made its appearance at both places, and from the latter spread over the neck, and a portion of the scalp, extending to the cheek, and downwards half way the back, and proved fatal in eight days after it exhibited itself. The depletion by the leeches and purgatives, with the use of extract of hyosciamus and stramonium, had restored the patient to a sound mind before the erysipelas broke out. Delirium supervened upon the extension of the inflammation over the neck, and persisted as long as the young man lived. The nitrate of silver seemed to arrest the disease on the abdomen, when it first broke out, but did not appear to exert much influence upon it as it advanced along the neck towards the head. This caustic is the favorite remedy of our practitioners for limiting the disease, which it is found to do in many cases. The corrosive sublimate

we have also seen applied with decided advantage. With both, the object is to vesicate the skin in advance of the inflammation. The constitutional remedies have already been recited, and the disease being one of the constitution our reliance is properly upon them. Y.

ART. IV.—*A Practical Treatise on Midwifery.* By M. CHAILLY, M.D., and Ex-Chief of the Obstetric Clinique of the Faculty of Paris, Prof. of Midwifery, Member of the Society of Medical Emulation, &c., &c., &c. Illustrated with 216 wood-cuts. A work adopted by the Royal Council of Public Instruction. Translated from the French and Edited by GUNNING S. BEDFORD, M.D., Professor of Midwifery and the Diseases of Women and Children, in the University of New York. New York: Harper & Brothers. 1844. 12mo. pp. 530.

The full title page enumerates the claims of this work to the confidence of the profession: it was adopted by the Council of Public Instruction of France, and was esteemed of so much practical value by an American teacher of midwifery, that he undertook the labor of presenting it to his countrymen in an English dress. Professor Bedford further states that the volume embodies the instructions and experience of the eminent Paul Dubois, which, he justly supposes, will secure for it a favorable reception on this side of the Atlantic. In some respects, the publishers have done justice, in the mechanical execution, to the high scientific character of the work, but the wood-cuts have been a good deal criticised, and we must say with propriety. We wonder that pains were not taken to render the volume more unexceptionable in this particular. As it is, however, the student will derive a great advantage from the illustrations, which are given on every few pages. Combining, as the work does, all that is new in obstetric science, and abounding in that practical information which the young accoucheur wants at the bed side, it may be recommended as one of the most compendious treatises on the subject before the profession. Y.

ART. V.—*The Cyclopædia of Practical Medicine.* Edited by JOHN FORBES, M.D., F.R.S., ALEX. TWEEDIE, M.D., F.R.S., and JOHN CONOLLY, M.D. *Revised, with additions,* by ROBLEY DUNGLISON, M.D. Philad: Lea & Blanchard. 1844. Part I. To be completed in 24 parts; a part to be issued every 2 weeks. Price 50 cents a number.

This Cyclopædia is pronounced, on all hands, to be one of the most valuable of the medical publications of the day. It is meant to be a library of practical medicine. As a work of reference, it will be invaluable. Among the contributors to its pages it includes many of the most experienced and learned physicians of the age, and although it must happen in such a work that some topics will not be treated with sufficient fullness, while others may occupy undue space, as a whole it forms a compendium of medical science and practice from which practitioners and students may draw the richest instruction. Y.

ART. VI.—*Transactions of the New York State Medical Society. Vol. VI. Part. I.* Albany: Joel Munsell. 1844.

This is a collection of interesting papers. The second one, by Dr. Blatchford, discusses a curious question connected with equivocal generation. Dr. B. was called on to testify in a suit of slander, in which one woman was accused by another of having become pregnant by a dog. He declares the impossibility of such an occurrence, and enters into many striking details to prove his position. In order to procreation, he says, there must be an agreement in the three following particulars:

"1. Both species must possess organs of generation exactly alike.
2. The time they go with young must be the same.
3. They must agree in their manner of copulation.

Hybrids among animals occur only in a very few classes. There is that of the horse and the ass kind, but here we find the female ass and the mare furnished with organs of generation precisely similar, their period of gestation is the same,

being a little over eleven months, and so is their manner of copulating; thus there is a concurrence of these three important particulars, essential to pregnancy in cross breeds. The same similarity occurs between the male organs of generation in the jack and the stud as occurs between those of the females of the same species. But here a circumstance should be mentioned which shows very strongly the antiphysical nature of such abnormal productions. The hybrids of these animals never possess the power of reproduction; although as far as the investigations of the anatomist can ascertain, they are furnished with all the necessary organs of generation, and the male mule is vastly more lecherous than either the jack or the stud.

"Another instance is that between the sheep and the goat. Here, likewise, we find the three essentials present; the organs of generation, and the manner of copulation are the same, and they both go with with young five months."

Experiments have been made again and again, he says, upon the dog, wolf, and fox, to see whether they would cohabit promiscuously. He adds:

"The organs of generation are alike in all three, and the manner of copulation is the same likewise; but a difference exists between them in the period they go with young. The fox goes six weeks, the dog nine, and the wolf fourteen. This is doubtless the great barrier, which, together with the almost irreconcilable hatred subsisting among them toward each other, the wise Creator has set up to prevent their promiscuous union. If so, we may safely predict that every succeeding experiment will be alike unsuccessful."

The popular belief is opposed to this. It is generally supposed that intercourse between the dog and the wolf is fruitful. Buffon, however, maintains the contrary, and he investigated the point with great labor—procured pups of the two races, brought them up together, and kept them in retired places; but in three years they were never observed to have sexual intercourse. If animals agreeing in almost every particular do not possess this power, it cannot be expected, says Dr. B., in those who differ so widely as man and dog. Having stated the difference in their organs of generation, he adds:

"The two species differ as widely in the construction of

the uterus, and these differences, to say nothing of one being uniparous, or bearing one at a birth, and the other multiparous, or bearing many at a birth, are sufficient to make a great difference in the manner of copulation. In our own species it is a muscular propulsion of the sperm by the male, almost entirely unassisted, into the uterus of the female. In the dog, on the contrary, it is a kind of muscular secretion, or mechanical compression, produced entirely by the contraction of the female organs, excited to their highest degree by the presence of the male. In the one, the male is the active agent in making the deposite, while the female remains nearly passive; in the other the male remains almost entirely passive while the female is the active agent.

"If therefore it be true, as I think I have made it abundantly appear, that a certain essential power be wanting in both individuals, a power without which impregnation is impossible, even admitting all other things to favor the opposite result, does it not approach very nearly to a demonstration, that the object contemplated can never be effected?

"But if these differences of structure are not sufficient to prove my position, there is the very wide difference between the two individuals in the period of gestation, while in one it is forty weeks, in the other it is only nine."

Any one curious about such matters will find much more to the same point in this paper. The volume is one which does credit to the Society from which it emanates.

Y.

SELECTIONS

FROM

AMERICAN AND FOREIGN JOURNALS.

Employment of Electricity and Electro-Magnetism in Poisoning by Laudanum. By GEORGE CORFE, Esq. SIR—I beg leave to submit to you the following particulars relating to two persons who were brought into the hospital under the denomination of "poison cases;" the first of which was really one, the second had all the appearance of being so, both from the symptoms that presented themselves and from strong circumstantial evidence.

Both cases were treated alike; the first recovered perfectly, the latter one died; and it was by means of the post-mortem examination that the real cause of her decease was discovered to be in that change of structure in the kidneys known as "Bright's disease."

With reference to the former I will observe, that a square-built, stout man, (G. Freegroove), aged 54, was brought here at three o'clock in the morning of the 14th of September last, having taken an ounce and a half of laudanum the preceding evening, at half past nine o'clock. In the first instance I ordered the administration of the stomach-pump, at which period, to all appearances, he was a lifeless corpse: the pupils were contracted to a pin-hole in size; the pulse was intermitting, and not more than 40; the respirations convulsively performed at intervals of half a minute; the face livid, and the extremities bluish and cold. After the stomach had been relieved of its contents, green tea, with ammonia was injected therein; flaggellation with thin splints and wet towels, the cold douche, turpentine stupes and sinapisms to his calves

and abdomen, were applied in succession, without the least improvement in his condition. The bladder was relieved of six or eight ounces of light-colored urine by the catheter. I then thought of a most powerful remedy, which was attended with extraordinary success; I allude to the electro-magnetic battery, conjointly with electricity, which was set to work upon him soon after four o'clock. The pulse became more steady, firm, and frequent; the respiration more indicative of resuscitation. Our powerful electrical machine was now got into full play before a large fire, and the jar filled, when some brilliant sparks and strong shocks were occasionally passed through his head, spine, thorax, and abdomen. None of these means roused him, beyond throwing the whole body into violent and convulsive succussions and muscular contractions.

After an hour's hard work, in which the son of the patient exerted himself most indefatigably, the man suddenly roused up, with something like the following exclamation:—"Holloa! you rascals, what are you trying specimens on me for? I wish you'd let me alone." At this moment he opened his eyes and looked wildly about him, and though he evidently did not recognize the person of his son, yet he knew his voice, and asked him for his clothes to put on, which he said were in the next room, whilst the poor son was so affected by the sudden change from apparent death to comparative consciousness, that he turned aside and gave expression to his feelings by bursting into tears. After this the patient relapsed a little, and another shock was given him from time to time, which, when it was directed to the tip of the nose, excited his frame and his anger too, above all spots, for he instantly broke out in such remonstrances as these:—"What are you about, you set of beasts! You are only keeping me here to try your specimens upon me. I want to go, and you shan't keep me either, you unfeeling brutes! You are like savages, pulling a man about in this way," &c.

This work went on until after seven o'clock, when I considered him so much better as to place him in the ward in charge of the nurse and his son, and he walked home from the hospital the following day, quite well and very sulky.

I now proceed to the second case, that of a corpulent widow, about 40 years of age, from Rathbone-place, who was brought here by the police on the 5th of December, at 4 o'clock, p. m., under very similar circumstances, being found in her bed at six o'clock, a. m., in a state of perfect insensi-

bility, which had continued ever since. The female, her companion, who slept in the next room, stated that she had taken, in the course of the night, about three ounces of laudanum. The pulse, however, was slow, but regular; the respirations irregular and convulsively performed, about six and eight in a minute; the pupils were contracted, but not so much so as in the previous case. The treatment was precisely the same, except that we could not succeed in emptying the stomach, though we injected green tea and ammonia by means of a large catheter and an elastic gum bottle. She died four hours and a half after her admission, or fifteen hours from the period when she was discovered to be in this state.

On informing you, sir, of this case, I received your order for examining the body, which I accordingly did about 18 hours after death. The left hemisphere of the brain was flatter and not so fully developed as the right, otherwise there was no structural disease or lesion of this organ. The contents of the thorax were healthy, the lungs gorged with black blood, and loose coagula of black blood in both ventricles of the heart. The mucous membrane of the stomach was softened, and easily torn away by the nail; it contained only the green tea which had been injected.

Having made the examination, I came to the conclusion that the deceased had not destroyed herself by laudanum. I left the body, and it was sewed up for the coroner and jury, when, having pondered the case over, the conviction was brought to my mind that in the kidneys might be discovered the real cause of the lady's death. I lost no time, therefore, in getting the body re-opened, and in removing the kidneys, when, to my astonishment, and, I may say, great satisfaction, I found them to present a striking specimen of that disease known as "Bright's kidney," in its second stage; they emitted that peculiar rank, suffocating smell, not unlike game in a state of putrefaction, and which I frequently noticed before in cases of poison from "ischuria renalis." The bladder was firmly contracted and not larger than a walnut, and was even smaller than the uterus. This fact, I may observe, I noticed on the first day's examination.

It was now clear to my mind that the deceased had died from renal apoplexy, or as authors term it, ischuria renalis, a disease which has been so ably described by Sir Henry Halford, in a paper read before the Royal College of Physicians, and quoted by Dr. Watson, in his recently published and valuable lectures on the practice of physic, from which work I shall

take the liberty of quoting a case exactly corresponding to that of the deceased.

"A very corpulent robust farmer, of about 55 years of age, was siezed with a rigor, which induced him to send for his apothecary. He had not made water, it appeared, for twenty-four hours. But there was no pain, no sense of weight in the loins, no distention of any part of the abdomen; and, therefore, no alarm was taken till the following morning, when it was thought proper to ascertain whether there was any water in the bladder, by the introduction of the catheter, and none was found. I was then called (says Sir Henry), and another inquiry was made, some few hours afterwards by one of the most experienced surgeons in London, whether the bladder contained any urine or not, when it appeared clearly that there was none. The patient sat up in bed and conversed as usual, complaining of some nausea, but of nothing material in his own view; and I remember that his friends expressed their surprise that so much importance should be attached to so little apparent illness. The patient's pulse was somewhat slower than usual, and sometimes he was heavy and oppressed. I ventured to state (continues the author) that if we should not succeed in making the kidneys act, the patient would soon become comatose, and would probably die the following night, for this was the course of the malady in every other case that I had seen. It happened so; he died in thirty hours after this, in a state of stupefaction."

Before I conclude, I must mention, as a fact of the case worthy of notice, that the shocks of electricity produced a faltering of the pulse and diminution of the vital powers, instead of rallying them, as was the case with the man.

I would leave these hints regarding this powerful therapeutical agent for your consideration, and that of any medical gentleman who may be connected with the Royal Humane Society, or other similar institutions.

I beg leave also to add, that during my residence in this hospital I have received several dozens of patients who had fallen down in what were called fits of insensibility, or apoplexy, but in all of which the same appearances which I have just described were visible after death; and in this instance my mind was strongly carried away from the consideration of such a disease existing by reason of the positive assertions of her friends that she had taken laudanum; whereas it appeared on the inquest that this drug, which was kept in several bottles by her, was only used as a liniment on her

loins, to relieve the severe pains she felt there and in her head, for which cause she often said to her niece, who slept with her, that she should one day certainly go mad. It was fully proved by the niece that she had never taken laudanum, though the pain had been unusually great on the night (December 4) of her last attack of headache. These facts will, I think, appear worthy of attention.

London Lancet, for January.

Open Anus in certain forms of Fœcal Incontinence.—In a case of severe sporadic dysentery, recently related by M. Bouchut (Jour. de Medicine), the anus remained permanently open, and allowed the contents of the rectum to escape, without the patient being able to restrain their emission. This state of the anus he ascribes to weakness of the sphincter ani, and to predominance in the action of the levator ani, which is the dilator of the anus.

The paralysis of the spincter ani in this case may be explained by a principle in pathology, on which great stress is laid by some continental pathologists, among whom we may mention M. Gendrin. According to this pathological law, whenever a mucous membrane is severely inflamed, the muscular fibres which are in contact with it become paralysed, as a necessary consequence of the propagation to them of the inflammation. Thus, when the mucous membrane of the larynx is inflamed, the muscular fibres of the vocal cords are paralysed, and aphony follows. The existence of the law may be illustrated by many other examples. In bronchitis or inflammation of the bronchial mucous membrane, if the inflammation is intense, extreme dyspnœa follows, and as M. Gendrin very correctly remarks, all the symptoms of pulmonary emphysema ensue, owing no doubt, to the paralysis of the muscular fibres of the bronchial tubes. In peritonitis the inflammation of the peritoneal covering of the intestinal canal extends to the muscular coat, completely paralyses it, and thus gives rise to constipation; as, also, the paralysed intestine no longer offers any resistance to the expansion of the gases it contains, tympanitis follows. In severe enteritis it is the inflammation of the mucous membrane which paralyses the muscular structure; but as the intestinal mucous membrane is separated from the muscular one by a fibro-cellular layer, the inflammation acts less intensely on the muscular fibres than in peritonitis, and unless it be very severe,

diminishes, but does not abolish its contractile power; thence it is that, generally speaking, in enteritis we have mere constipation, tympanitis only existing in the worst cases.

Ibid.

Progress of Thomsonism.—On the 29th page of the Botanico-Medical Recorder, is a communication from one H. Sheddon, dated at Coventry, R. I., which is entirely a unique production in several respects. He speaks of himself as being located at Coventry, as a "Thomsonian physician." And further, in speaking of the people of that quarter, he says, "they begin to think that when people die, it is not always the Lord's will, but the doctor's poison. These poisoners have done everything that is dishonorable, low and mean, to stop the progress of Thomsonism in Coventry." No wonder some have risen up in their strength to withstand the tidal wave of such concentrated ignorance and presumption as mark the character of this correspondent's production. But it is chiefly in his poetical light that this man of Coventry is to be noted. With a boldness that brooks no control, and a fervency such as poets feel in moments of ideal exaltation, Dr. Sheddon thus exclaims:

"But after all their foul abuse,
The people love Lobelia juice;
Steam and powders is the cry,
Let us have these, or we die."

He adds—"The first two years of my living in this place, I did not receive one hundred dollars." The wonder to us is, how he ever received anything.

Boston Med. and Surg. Jour. for May.

Disgraceful Advertisements.—No better evidence of the corruption of the times and the boldness of those who live by imposition, and even crime, could be adduced, than many of the advertisements in this and all the great Atlantic cities. The advertisers seem utterly shameless, besides being thoroughly unprincipled. These shocking specimens of ingenious corruption, under the guise of Samaritan efforts for suffering humanity, are a disgrace to the newspapers, the me-

dium through which the concentrated vileness of a mighty host of depredators on health obtains an introduction to the ignorant community.

Look at the advertiser's description of the *Portuguese Female Pills!* "The combination of ingredients of which these pills are composed, have made them the wonder and admiration of the world." "They must not be used during pregnancy, for though always mild, safe and healthy, they are certain to produce miscarriage, if used during that period." This false caution creates a positive demand for them for the most wicked purposes. And so of a multitude of others which we have neither time nor patience further to allude to. These advertisements are admitted into papers which circulate in families and lie on parlor tables, and the mischief which is done in various ways through their means is incalculable.—*Ibid.*

Intemperate Physicians.—Happily for society, the old race of tippling physicians has gone out of fashion. Formerly it was one of the common reproaches brought against the profession, that many of the best practitioners were intemperate. If they could be caught while sober, their advice was of the highest value. There is no occasion, in this age of soberness, for watching an opportunity to get medical advice from that class of physicians. In New England, there are a few drinking ones left—laudanum-taking men, perhaps, who vainly imagine that they are securely deceiving the world in regard to their habits, when the fact is, no one is in the dark but themselves.

How disgraceful—and, above all, what a fearful responsibility—to prescribe for the sick when muddled with liquor or stupefied with opium! The public have a vigilant eye on the remnant few of these semi-sober physicians, who must either conform to the requirements of reason and the temperance reformation, or go down in poverty and neglect to that low obscurity to which a moral community will certainly consign them.—*Ibid.*

Naphtha in Pulmonary Consumption. Case I.—July 14, 1843. A. N., ætat. 32, has had cough and expectoration of opake yellow matter for some months, with emaciation. Was

able to pursue her occupation, that of a dress-maker, until the spring of the present year, when her debility was much increased. Percussion dull over the left side throughout its whole extent; respiration cavernous in the same side as low as the third rib; pectoriloquy perfect; percussion natural on the right side; respiration bronchial; no râle. To take ten drops of naphtha three times in a day. After taking it a few days, she "thought it did her cough good." She continued the naphtha without the least apparent benefit until within a few days of her death, which took place September 11. Whilst taking the naphtha, the night perspirations were much increased.

Case II.—July 13, 1843. S. M., ætat. 20; four months ago, being in service in London, was attacked with cough, accompanied with much debility and languor; returned home a fortnight since. Countenance unhealthy; expectorates globular masses, of a greenish white color; pulse rapid; perspires much at night. The subclavicular spaces on either side are much flattened, and preternaturally sonorous on percussion; under the right clavicle the inspiration is accompanied with a single moist crapitation; pectoriloquy perfect. On the left side the respiration is rough and grating, and a puff is heard to strike at the bottom of the cylinder at each effort at articulation; sounds of the heart diffuse. After taking ten drops of naphtha three times daily for three weeks, the expectoration somewhat lessened, but again increased in a few days; the dose was augmented to fifteen drops. Colliquative diarrhœa set in, which was with difficulty checked by opium. As she considered the naphtha aggravated the diarrhœa, she was ordered to omit it for a few days, but as little alteration was observed in the frequency of the motions, she resumed it; becoming, however, rapidly worse, she finally abandoned it, after having taken it about a month. She died December 3.

Case III.—August 18, 1843. Mrs. S., ætat. 30, had been affected during the last winter with cough and shortness of breath, which confined her to her house. During the summer her health improved, so that she was able to take walking exercise in the open air. Towards autumn her health again declined; she was troubled with night perspirations, cough and expectoration; catamenia suppressed. Percussion elicited a dull sound under the right clavicle, in which situation a small crepitation is heard at the end of each inspiration. On the left side the inspiration is broken. Took the naphtha, in doses of fifteen drops, for nearly a month,

when it was abandoned at her own request. During this time the symptoms progressed from bad to worse without any mitigation. She is now entirely confined to her bed, and her death is daily expected.

Case IV.—July 20, 1843. O. J., ætat. 24, family consumptive; had dry cough at the beginning of the same year, which did not much interfere with his health until the middle of May, when he was attacked with hæmoptysis, which lasted more or less for two days, since which time he remained much debilitated. Face pallid and thin; coughs much, and expectorates mucus with yellowish masses suspended in it; is capable of walking about, and can lie on either side; pulse 94; perspires at night; percussion rather dull in the left subclavicular region, as far as the third rib; respiratory murmur in this situation feeble, and occasionally broken; a faint crepitation may sometimes be detected at the termination of each expiration; much vocal resonance; percussion under the line of the right clavicle slightly dull; respiration over the whole of this side puerile; no râle. He commenced taking naphtha three times daily, in doses of ten drops, which were gradually increased to twenty. The only effects observed were that it produced severe griping, aggravated the diarrhœa, and, while under its use, perspirations were most profuse. To control its tendency to increase the diarrhœa, a few drops of laudanum were given in conjunction with the naphtha.

With much perseverance this patient persisted in its use, although to him a very disagreeable medicine, until the 1st of September, a period of six weeks, when he could not be persuaded to go on with it longer. During the time he was taking it, the cough, expectoration, hectic fever, and emaciation increased rapidly; and stethoscopic examination discovered progressive softening and disorganization of the upper part of the left lung. He died in October.

Case V.—August 18, 1843. Mrs. S., grocer, of stout, robust make, has for several winters been troubled with cough and expectoration. In the summer of the present year spat blood for two or three days, since which has had much expectoration of muco-purulent matter, frequently tinged with blood; has lost flesh, but is still capable of partially serving in her shop. Percussion dull under the left subclavicular space, which is considerably flattened, and in which situation a moist crepitous râle is heard. To take 20 drops of naphtha three times a day.

September 28. Is evidently weaker; cough violent; expectoration copious, and much dyspnœa on exertion. States

that the only effect which she can ascribe to the drops is the induction of some degree of headache after taking them.

After persevering in the use of naphtha for nearly two months, without benefit, she discontinued it, at which time the crepitating râle had given place to a strong and extensive gargouillement. Her condition is now much the same as when she discontinued the use of the naphtha.

Case VI.—Aug. 12, 1843. Mrs. S., æt. 29, has had cough since last Christmas, but without much disturbance of the general health, until about three months ago; she then experienced debility and night perspirations. Her present symptoms are as above detailed; expectoration sparing; pulse very rapid; catamenia suppressed for two months; percussion very dull below the left clavicle, inspiration here terminating in a slight mucous râle; expiration prolonged, rough, and blowing; pectoriloquy distinct. After taking the naphtha in doses of twenty drops, for a month, without any benefit, and with rapid advancement of the disease, she discontinued it.

Case VII.—October 1, 1843, J. F., ætat. 32, states that he has had cough for some weeks; expectorated recently about a teaspoonful of blood; suffers from shortness of breath, but is tolerably robust in appearance; on percussion a trace of dullness is perceived immediately under the right clavicle; the inspiration here is feeble; expiration broken. After he had taken twenty drops of naphtha three times a day, for a fortnight, with little or no relief to his cough or breathing, I did not feel justified, after the naphtha had hitherto entirely failed in my hands, in omitting any other means which I thought might be beneficial to the patient. I therefore kept up counter-irritation under each clavicle for several days; at the same time he continued the use of the naphtha. Under this plan his health improved, his cough moderated, and his breathing became less difficult, and for the last three weeks has been able to fulfil the duties of his avocation, that of a farm-laborer. He ascribes his recovery to the repeated blisters. Whether these, or the naphtha, be entitled to the credit, I shall forbear to express my opinion.

From an attentive consideration of the cases which have been imperfectly detailed above, I cannot hesitate to state that, at present, I am sceptical as to any beneficial influence exercised by naphtha in cases of true tubercular phthisis. At the same time I shall not fail to give it a more extended trial, as opportunity offers.—*London Lancet*, for January.

Remarkable Case of Abdominal Tumor.—Mr. Dendy, after some comments on the acknowledged difficulty in the diagnosis of abdominal tumor, read a case, of which we give the following extract:

A gentleman, 31 years of age, previously in fair health, yet having suffered for a week under severe influenza, and for which he had taken large doses of nitrate of potash, was suddenly attacked, on the 10th of October, by abdominal tumefaction of the right side with but very slight concomitant uneasiness. The tumor increased so rapidly that within twenty hours from its perceptible commencement it reached from the margin of the ribs to Poupart's ligament, extending across the umbilicus, projecting into the loins, and resting on the crista of the left ilium. It was then insensible to pain on pressure, yet producing dyspnœa from its encroachment on the diaphragm, &c.

After a few days, during which there was complete constipation, neuralgic pain supervened, first in the lumbar plexus and afterwards in the sacral, and the nerves proceeding from them. This neuralgic pain became, in the course of the disease, occasionally so agonizing as to produce extreme agitation, and subsequently stupor. The pulse and urinary secretion were nearly natural.

Enemata, repeated purgatives, and anodynes were administered. The bowels were not relieved for nearly ten days, and then for nearly a week longer the evacuations, even after enemata, though the elastic tube was introduced as far, at least, as the upper angle of the sigmoid flexure were merely morbid grumous secretions of the intestine.

About the 30th of October the evacuations became more feculent, but mixed with numerous shreds of coagulated mucus, resembling grape-skins. Emaciation was now visible, and this progressively increased, notwithstanding a very fair proportion of nutrition was administered and retained, and various medicines were exhibited. Early in November colocynth and compound decoction of aloes succeeded, after a day or two, in producing more feculent motions. Still the tumor increased until the abdomen measured two feet six inches in circumference.

On November 20th pus began to flow with the urine in large quantity, and was attended by very perceptible diminution of the tumor; still emaciation continued until the end of November. From this period the patient gained flesh, and on the 6th of December, the urine having become almost natural, he was pronounced convalescent.

The interest excited regarding this case was increased by the circumstance of this being the second severe attack, marked by precisely the same symptoms; the first appearing four years since. He had, however, suffered under three other very transient attacks in early life, at almost regular periods, which speedily yielded to purgatives.

Many acute pathologists visited this gentleman in the course of the malady—their diagnosis differing considerably—the principal opinions referring to colic, impaction, congested spleen, melanotic, or even malignant growth, serous cysts attached to the peritoneum, or developed in submucous tissue, and suppuration of the kidney in its capsule.

The author analysed these and other notions suggested during attendance, referring to the absence of records of analogous cases in Morgagni, &c., and alluding to other cases recorded by Dr. James Johnson many years since, leaving the essential or primary nature of the disorder, whether consisting in pyelitis, with masked symptoms, or in cystic suppuration bursting into the collapsed capsule of the kidney, as well as the etiology of the case, especially with reference to the nitrate of potash, as an open question for discussion.

Dr. James Johnson had lived long enough in the world not to be ashamed to acknowledge an error. The result of the case nuder discussion proved that he had been wrong in suspecting it to be dependent upon disease of the spleen. He was now of opinion that the tumor had resulted from distention of the pelvis of the kidney; and he handed to the secretary an abstract of a case of renal suppurative dropsy which had come under his care sometime since. The subject of the case was a woman, eight months advanced in pregnancy. She complained of violent pain in the right side of the abdomen, extending from the umbilicus round to the lumbar vertebræ, and from the floating ribs to the groin. She had fever, with scanty, highly colored urine. The abdomen appeared unusually large, and there was a distinct *sulcus* running from the scrobiculus cordis to the pubis, on each side of which the abdominal tumor rounded out as though there were two impregnated wombs. She reported that of late her urine was sometimes scanty, sometimes copious and white like milk. On the 10th of May she fell into labour, and next day was delivered of a living child. The right side of the abdomen remained as large as before delivery, presenting a considerable tumor, seven or eight inches in diameter, perfectly smooth on its surface and giving the feel of fluctuation. Fever, colliquative diarrhœa, and constant micturition followed. On

the 20th of May the nurse was surprised to find the bed, and even the floor of the room covered with a milky fluid, which had escaped in the night, without the knoweledge of the patient, who had slept soundly. The tumor was gone. Fever, however, and diarrhœa continued, and she sunk in a few days. After death a large cyst was found, which, on being opened, discharged about three pints of milky fluid. The whole internal surface of the bag was very vascular, and thickly studded with a kind of papillary bodies, varying in size from that of a pin's-head to a pea. The ureter, of enormous size in some places, was traced from the cyst into the bladder, in which last viscus there was about a pint of this milky or muco-purulent fluid. No part of the substance of the kidney, but only this great capsule could be found. The cyst, on calculation, would probably contain about five or six quarts of fluid. She had had a similar attack in a former pregnancy, which subsided after delivery, on the supervention of a large quantity of milky fluid. The post-mortem examination of this case was conducted very quickly, and under unfavorable circumstances. No stricture of the ureter could be detected, but he had little doubt that it really did, or had, existed, as this canal was in some parts as large as the aorta. Pregnancy had produced this stricture by pressure. He thought that there was a strong analogy between this case and the one related by Dr. Dendy.

Mr. Pilcher observed that when he saw Mr. Dendy's patient in the attack under which he labored four years since, he had no doubt at the time that the tumor was intestinal; others agreed with him in this opinion, and hence he was induced to recommend the introduction of a long tube into the intestines. The second attack was of a similar character, and the same plan was recommended. He was probably led to form this opinion from having dissected a case attended by similar symptoms, and which was supposed to be disease of the kidney, chiefly, from the circumstance of the urine containing pus on more than one occasion. On examination, all the urinary organs were found healthy. No marks whatever of a tumor could be detected; she died of diarrhœa. In this case, he had no doubt that the tumor had consisted of a collection, probably of fluid, in the colon, and that the discharge of pus from the bladder was merely a coincidence.

In the second attack, in Mr. Dendy's case, it was considered that the tumor was situated, probably, in the ileum, and that as it became diminished by the discharge per anum, it be-

came refilled by the secretion of fresh fluid. The discharge of large quantities of gelatinous matter somewhat favored this conjecture, as this matter was supposed to be secreted by the mucous membrane of the intestines. Other circumstances in favor of this opinion were the sensation the patient experienced on the introduction of the pipe, of its having passed *behind* the tumor, the constipation previous to the attack, the subsequent discharges, and the severe neuralgia, which was evidently the result of the pressure exerted by the tumor. Dr. Bright had felt no doubt but that the first attack was a well-marked instance of suppuration of the kidney. It was certain that in proportion as the pus was secreted from the bladder, the tumor diminished in size; but it must be recollected that there was diarrhœa, also, and it was difficult to say upon which discharge the diminution of the tumor depended. Dr. Bright had been surprised at the occurrence of the second attack, as he supposed that the kidney had suppurated entirely away, but considered that the cyst which would have remained had become inflamed and suppurated. The opinion of the speaker was, that the cyst of the kidney had remained in a collapsed state after the subsidence of the first attack; but on the occurrence of a general disordered state of the health, or the determination of a large quantity of blood to the cyst, the disease had returned. The periodic nature of the attacks was a point of much interest; the first occurred at seven, the second at fourteen, the third at twenty-one, and the fourth at twenty-eight years of age; there had been an interval of only four years between this and the last attack. Cases similar to that of Mr. Dendy were of uncommon occurrence, except as the result of stricture, or some mechanical obstruction to the flow of urine, from which originated a collection of fluid in the pelvis of the kidney. It was possible that stricture might exist in Mr. Dendy's case, but he did not think that it did.

Dr. T. Thomson considered the disease, in Mr. Dendy's case, to have consisted of suppuration in one or more of the calyces, or of the entire pelvis, of the kidney. The cause was obscure. He related a case of a woman subject to diarrhœa, and who had a large tumor on the left side of the abdomen. Pus was found in the urine, and occasionally the triple-phosphate deposit. With a view of dissolving this, small doses of hydrochloric acid were administered, but were obliged to be discontinued in consequence of its severe action on the bowels. She was subject to severe pains, which were

relieved by the administration of morphia. She lived two or three years, and after death the left kidney was found very much enlarged, and filled with pus. There was a triple-phosphate calculus impacted in the ureter of that side. Cases similar to Mr. Dendy's were usually the result of obstruction in the ureter; there was no evidence, however, of such an obstruction in this case. The long interval between the attacks favored the opinion. In Mr. Dendy's case there was no deposit of triple-phosphate in the urine.

Dr. L. Stewart related a case, in which the tumor, after death, was found to consist of an enlarged and thickened bladder.

Mr. Dendy, in answer to questions, stated that the patient whose case he had detailed, had, previous to the first attack of disease, taken a drachm of nitrate of potash twice a day; and two drachms three times a day previous to the last attack. This he did in opposition to his medical adviser.

Dr. Johnson considered this quantity sufficient to do mischief to the kidneys, and wondered it had not also seriously affected other organs. He had seen half-drachm doses very injurious to the stomach.

Dr. Willshire suggested that the nitrate of potash had acted as a powerful stimulant in this case, producing inflammation, and consequent suppuration of the kidney.

Mr. Headland observed that the value of the case under discussion much depended on the advantage it afforded of diagnosticating any similar case, should such be presented to our notice. He thought its whole history proved that the disease could not have been situated in the colon or the spleen, neither did he think it was at all proved that in the last case the kidney had suppurated. We had certainly no evidence of the presence of nephritis, in the usual sense of that term, the more prominent symptoms of that disease being absent. He was inclined, therefore, to think that there had been suppuration of the kidney in one of the former attacks, and that the cyst left after this disease had, in the last attack, become filled with fluid, not exactly pus, but an elimination from the blood. Did this arise from the administration of the nitre? We knew that in large doses this medicine was injurious, and did not act as a diuretic unless largely diluted with water. He therefore thought that in the present case the first effect of the medicine had been on the bowels, producing the peculiar evacuations which had been mentioned. It then appeared to have excited such an action on the cyst as to have caused an elimination from the blood to be secreted in it

There were no signs or symptoms of the formation of pus. If inflammation had existed to such an extent as it must have done to produce suppuration, the patient most likely would have succumbed.—*London Lancet*, for January.

Tic Douloureux of the Face and Head.—M. Ducros recently communicated to the Academy the details of some well-marked cases of this distressing disease, which were rapidly cured by the use of strong ammonia, applied to the palate, gums, &c., with a camel-hair brush, so as to occasion a profuse discharge of tears and saliva. He requested the physicians of several of the metropolitan hospitals to repeat his experiments on a large scale; and the results of their trials have been, he says, most satisfactory.

The strong aqua or liquor ammoniæ, taken internally, will be found to be a most valuable remedy in many cases of neuralgic suffering about the face and head, odontalgia, severe nervous headache, &c. The best mode of administering it is to mix from 20 to 40 drops in a cupful of very thick gruel, and to take this at bed time, or whenever the paroxysm of pain is present. The ammonia must be well blended with the gruel, else it will irritate very painfully the inside of the mouth and throat. It should produce a profuse salivation and lachrymation. In very severe or obstinate cases, it may be applied outwardly at the same time.—*Med. Chi. Rev.*, Jan.

Employment of Chloride of Zinc in Toothache. By Dr. Stanelli.—According to Dr. Stanelli, the chloride of zinc, liquified by exposure to the air, possesses the property of calming dental pains.

His mode of application is most simple. By means of a small hair pencil, a small quantity of it is applied to the cavity of the painful tooth, and in the space of a few minutes it appeases the most acute sufferings, without causing any irritation.

Before proceeding to the application, it is indispensable carefully to surround with cotton wadding, and, when the chloride has been applied, to well fill the cavity with this same cotton. The mouth is finally washed with a little warm water.

The author affirms that he has obtained uniform success from this means in more than fifty cases, and that he has never observed the progress of the caries rendered more active by it.—*Annali Universali de Medicina; and Chemist.*

Animalcules in the Intestinal Canal.—MM. Gruby and Delafond read a paper at the Academie des Sciences, on the 11th of December, on certain animalcules existing in great numbers in the stomach and intestines of herbivorous and carnivorous animals during digestion.

These physiologists, while pursuing their researches on digestion, made the discovery of numerous animalcules which are born, live, and die, in the stomachs of ruminantia—of the dog and pig, and in the large intestines of the horse. These animalcules exist in such numbers, and their presence is so constant, that they may be supposed to be of some service in the act of digestion. The following are the conclusions which may be drawn from their communication.

1. That the ruminantia have four species of living animalcules in their stomachs, during the period of digestion.
2. That the horse has seven species of living animalcules in the cæcum and dilated portion of the colon.
3. That the dog has two species of monads in the stomach.
4. The pig has only one species of animalcule in his stomach.
5. The animalcules of digeston are born, live, and swim in the acid liquor contained in the stomach.

The great number of these animalcules in the two first stomachs of ruminantia, the presence of their empty exuviæ in the third and fourth, and in the excremental matter, the considerable number of them in the cæcum and dilated colon of the horse, as also the existence of their empty exuviæ in the contracted colon and rectum, lead the authors to believe that the organic matter of these animalcules is digested in the stomach of ruminantia, and that it is absorbed in the contracted portion of the colon of the horse, and that in both cases it furnishes an animal matter for the purpose of digestion.

The conclusion to be drawn from these facts seems to be that, since in a state of nature, herbivorous animals receive only vegetable matter into their stomachs, a fifth part at least is destined to give birth to a great quantity of animals of an inferior development, who, digested in their turn, furnish animal matter for the general nourishment of herbivorous animals. This conclusion seems the more reasonable, as in the dog and pig, which are fed on animal and vegetable substances; the animalcules are smaller, less numerous, and of only one or two species.—*Prov. Med. Journ.*, from *Gaz. Medicale*, Dec. 16.

Chlorosis.—Chlorosis, according to our view of its pathology, is *accompanied*, but not *induced* by the absence of the catamenia; and hence it seems to us that we may, with perfect safety, keep the circumstance of the amenorrhœa almost out of consideration, in conducting its treatment. The disease is essentially a disease of the circulating fluids, and may, it is well known, exist in the male sex as well, though not so frequently, as in the female. There is a deficiency of the red globules of the blood, and an excess of its serum. If we are to trust the recent researches of M. Andral—and his authority, we need not say, is not lightly to be disputed—the proportion of the red globules in chlorotic blood is less by one-half, or even two-thirds, than the normal quantity. Here is the "fons et origo mali:" we have a poor watery state of the circulating fluid, which nature finds insufficient for the purposes of healthy nutrition and secretion—at that very period of life, when these functions ought to be the most energetic. Although we could by the use of any means provoke the catamenial secretion under such circumstances, would it, think you, have any beneficial effect upon the general health?—we judge not. Menstruation, be it remembered, in one sex has its analogous function (although this is not periodic) in the other; and certainly no one would ever think of administering any aphrodisiac medicines to a chlorotic boy, for the cure of his green-sickness. Let but the system have once a due supply of heathy blood permeating all its parts, and stimulating all its organs, and then will the white-waxen look give way to a rosy freshness, the faded and capricious appetite to a natural relish for wholesome food, the peevish listlessness and inaction to sprightly animation and vigor, and, with these changes, the absence of the menstrual secretion will be replaced by a due and normal regularity. Such will be the effects of a judicious hygienic treatment by steel and other tonics, by exercise in the open air, and a generous diet—not forgetting Falstaff's sovereign remedy for male green-sickness. "The second property," says the old rogue, "of your excellent Sherries is the warming of the blood; which, before, cold and settled, left the liver white and pale, which is the badge of pusillanimity and cowardice; but the Sherries warms it, and makes its course from the inwards to the parts extreme; it illuminateth the face, which, as a beacon, gives warning to all the rest of this little kingdom, man, to arm; and then the vital commoners and inland petty spirits muster me all to their captain, the heart; who great, and puffed up with this retinue, doth any deed of courage."—*Med. Chi. Rev.*, Jan.

Sir B. C. Brodie on Fistula in Ano.—I presume that you are all aware of the fact that abscesses are very liable to form in the vicinity of the rectum, and that when so formed they heal only with considerable difficulty, and, for the most part, do not heal spontaneously. You are also aware that the parietes of those abscesses contract, and become hard and callous, in which stage the disease takes the name of *fistula in ano.*

Now, this affection, although of frequent occurrence in hospital practice, is much more common in private practice, and, therefore, it is, in every point of view, a disease of great interest to the surgeon.

The first question that presents itself is this,—Why is it that abscesses are so particularly liable to form in the situation in question, and that when so formed they do not heal like abscesses occurring in other parts of the cellular membrane? I formerly supposed that the healing process was prevented chiefly by the irregular action of the sphincter and levator ani muscles. Further consideration, however, and more mature experience, have led me to the conclusion that this opinion was incorrect. That such causes may interfere with the healing of any abscesses I well know, but I am now fully satisfied that they will not afford sufficient explanation why it so rarely happens that abscesses near the rectum heal spontaneously, and, at any rate, it is quite clear that the action of these muscles will not explain the formation of these abscesses. In order to explain their formation, I must call attention to what happens in other parts of the intestinal canal. The mucous membrane, under a variety of circumstances, is liable to ulcerate. In patients who die from diseased liver, or phthisis pulmonalis, or at the end of continued fever, and various other diseases, you find the mucous membrane of the bowels ulcerated. This ulceration seldom extends further, does not involve the muscular tunic, but sometimes the latter is affected, and then some of the contents of the intestines escape. Should this occur where the intestine is covered by peritoneum the contents may escape into the peritoneal cavity. For example, there was a little boy, seven years of age, who had symptoms of mesenteric disease, who had just recovered from what was supposed to be a fever. When he appeared to be convalescent he was suddenly seized one evening with what was called a fainting fit, in which his pulse was not perceptible. After sometime, under the influence of a stimulant, he recovered; nevertheless, he continued low and depressed.

On the following day he had another attack of the same kind, from which he did not rally, and on examining the body after death, I found that there was ulceration on the inner surface of the ileum, and that the mesenteric glands were diseased. In one place the ulcer had extended by a small opening through the muscular tunic, and also through the peritoneum, and a small quantity of the feculent matter had escaped into the cavity of the belly. Every person who has had much experience of disease has seen cases of the same kind; but there are others in which both the muscular tunic and the peritoneal coat ulcerate, and yet the contents of the intestine do not escape into the cavity. Adhesions take place round the ulcerated spot before the ulceration of the peritoneal coat is completed, and these adhesions cause the contents to escape, not into the peritoneal cavity, but to become infiltrated into the cellular membrane of some part of the abdominal parietes. A young man, of seventeen or eighteen years of age, who had long been in ill health from disease of the lungs, and who was indisposed in other ways, was supposed to be rather better than usual, but one evening he was seized with violent pain in one side, and there was considerable tenderness of the whole of the abdomen. Two physicians were sent for, the symptoms were not exactly those of peritoneal inflammation, but they could not explain the symptoms so well in any other way as by assuming that he labored under peritoneal inflammation. The inflammatory symptoms subsided, and two or three months afterwards I was called in to see him on account of a tumor which had formed in the front of the belly. It was an abscess; I opened it, and there came out pus, and with it a good deal of foreign matter, which I was satisfied must have come from the intestinal canal. The abscess made its way in several other places, and ultimately this young man died. On examining the body after death, it was found that there were ulcerations at the lower part of the ileum; one of these ulcers had extended through the muscular and peritoneal tunics, but around that ulcer the ileum had contracted adhesions to the abdominal parietes above the groin, and the matter had escaped into the cellular membrane between the layers of the abdominal muscles, and from thence had made its way forward to the part where I opened it. This patient died, but it is not a matter of course, that under such circumstances, such should be the result. I was called in to see a little boy, who had been supposed to labor under mesenteric disease, and I found that there was an abscess near the umbilicus, discharging pus and feculent matter. We attended to his general

health, kept him in a recumbent position, lying on his back, which, I apprehend, was a most essential part of the treatment. Some very simple dressing was applied to the opening, and the boy ultimately recovered. I do not know whether he is still alive, but he was alive two or three years afterwards. I saw another case of the same kind, and I know that the boy lived a considerable time, but as he was taken away from London, I cannot tell whether he ultimately recovered or not.

That part of the intestine in which ulceration of this kind is most likely to take place, is the lower part of the ileum; but it not unfrequently occurs in the cæcum. Abscesses in the right iliac region, generally belong to the cæcum. A young man, on jumping from a coach, felt something, as he said, give way in the right groin, and he came to London with a tumor in that situation. I thought that there was a deep-seated gland which was suppurating, and recommended him to go home, to keep quiet, and to poultice the tumour. A month after he had jumped from the coach, he sent to say that the abscess had burst. There was a discharge of pus from it, but it was of a very offensive character, and on examining it carefully I was satisfied that there were fæces mixed with it. He had no bad symptoms at first, and being a very nervous man I did not tell him the exact nature of the case, lest it should alarm him. Two or three days afterwards he took some medicine, and a draught of decoction of bark. A short time after, to his horror, the decoction of bark ran from the groin and frightened him out of his wits. From that moment his nervous system began to give way, he became in a state of great nervous excitement, and died ten days after the bursting of the abscess.

On a post-morten examination I found an ulcerated opening of the cæcum; the fæces had escaped through it into the cellular membrane at the posterior part of the cæcum, and formed an abscess, which burst into the groin. There was a woman in this hospital, with an abscess in the groin, and we supposed it to be connected with dead bone, which is the case with a great number of chronic abscesses. Perhaps sufficient attention was not paid to the quality of the discharge; but one day the woman, in taking off a poultice, found in it a lumbricus. She ultimately died, and on examining the body after death, we found an ulcerated opening of the cæcum through which the intestinal worm had made its way. It was evident that the ulcerated opening of the cæcum, which was at the posterior part, had been the beginning of the abscess.

Though these cases are not exceedingly rare, I mention them, because stating specific cases will often impress an important fact on the mind, much more than a general observation.

I believe this is the way in which fistulæ in ano are always formed, namely, the disease is originally an ulcer of the mucous membrane of the bowel, extending through the muscular tunic into the cellular membrane external to the intestine; and I will state my reasons for entertaining that opinion. The matter is not only one of great interest as a question of pathology, but it is one of great importance, as I shall show by and by, in connection with surgical practice. It is admitted by every one, that in the greater number of cases of fistulæ in ano there is an inner opening to the gut, as well as the outer opening; and I am satisfied that the inner opening always exists, because I scarcely ever fail to find it, now that I look for it in the proper place and seek it carefully. I have, in a dead body, examined the parts where fistulæ had existed several times, and in every instance I have found an inner opening to it. This affords a very reasonable explanation of the formation of these abscesses; it is almost impossible to understand, on any other ground, why suppuration should take place in the vicinity of the rectum, more than in any other part of the body, and why the cellular membrane there should suppurate more than cellular membrane elsewhere. Moreover, the pus contained in an abscess near the rectum scarcely ever presents the appearance of laudable pus,—it is always dirty-colored, and offensive to the smell,—sometimes highly offensive, and occasionally you find feculent matter in it, quite distinct. There is no reason why an abscess, simply formed in the cellular membrane should smell of sulphuretted hydrogen; but there is a good reason why it should do so if it be connected with the rectum.

This being the case, it is easy to understand why these abscesses do not heal. The least quantity of mucus, even from the gut, or of feculent matter, issuing into the cavity of the abscess, is sufficient to occasion irritation and prevent it healing, and I have more than once, in the living person, been able to trace the progress of the formation of one of these abscesses. For example, I was sent for to see a lady who complained of some irritation about the rectum, and on examining it I found an ulcer at the posterior part. I ordered her to take Ward's paste,—confec. piperis nigrum, or cubebs pepper, I forget which. A month afterwards she again sent for me, and I found that there was an abscess. I opened it, and from the outer opening the probe passed into the gut through

the ulcer which had been the original cause of the disease. The original opening of the abscess is generally very small indeed, but occasionally it is large, and when the ulceration has proceeded to some extent, is large enough to admit the end of the little finger. The inner orifice is, I believe, always situated immediately above the sphincter muscle, just the part where the fæces are liable to be stopped, and where an ulcer is most likely to extend through both the tunics.

I believe that the most common cause of abscess of this kind is, the lodgement of hard fæces in the bowels; by the straining that takes place to expel them, the mucous membrane gets torn or abraded at one part, and then the passage of the fæces causes ulceration. Sometime afterwards straining again occurs, and then the muscular tunic gives way, and the fæces escape into the cellular texture. Foreign bodies, however, in the rectum, sometimes cause abscesses. I mentioned two cases in the last lecture, but I shall mention them again. I mentioned them before because they particularly appertained to the subject we were then discussing. I was called in by a gentleman who complained of great irritation about the rectum. I thought that he labored under internal piles, but the next day he complained still more, and on examination of the rectum, I found a hard substance sticking in the membrane. It was a piece of apple-core which he had swallowed the day before, and if it had not been extracted it would have occasioned ulceration, some of the fæces would have been pressed through the opening, and in all probability the apple-core would have been found in the cavity of the abscess. I was sent for to see another gentleman who was exceedingly ill with a large abscess in front of the anus. He had a brown or rather a black tongue, and bad typhoid symptoms. I opened the abscess freely, let out a quantity of putrid offensive matter, and, on introducing my finger into the abscess, I found a long fish-bone sticking across, with one end in the gut and the other in the abscess. He had swallowed the bone, it had stuck in the bowel, and a little of the fæces escaping by the side, made a putrid abscess. Patients, with disease of the liver, disease of the lungs, and in certain states of ill-health, are specially liable to abscess and fistula of the rectum. The reason is this: persons thus affected are peculiarly liable to ulcer of the mucous membrane; one of the mucous glandules is attacked, and, being very thin, it gives way under the straining that takes place to expel the fæces, and fæces escape through the opening.

The first formation of an abscess about the rectum is not in

general attended with very urgent symptoms. The patient has a sense of bearing down, a fullness and weight; he thinks that he has got piles, he puts his hand by the side of the anus, and finds a little hardness. After a time it increases, the parts become tender; there is pain when he passes his evacuations; perhaps some difficulty in passing them; by and by the pain becomes still greater, the skin inflames, the abscess, if left to itself, bursts, and a quantity of matter is discharged, which matter is almost invariably offensive, dark-colored, and putrid. The disease sometimes forms so insidiously that the patient is not cognizant of it till the abscess has burst. Twenty years ago a physician in large practice in London felt very ill, languid, listless, unfit for business; and in the middle of the day, in consequence of headache and an incapability of exertion, wanted to go home and lie down for an hour before he could finish seeing his patients. One afternoon, intending to walk home, he had sent away his carriage. He found something give way, burst into his small-clothes, and on his return he found that it was a putrid abscess—a fistula. He went through an operation for it, and got well.

While these abscesses are forming, there is sometimes little or no constitutional disturbance; but in other instances there is a great deal of it, and I believe that it depends chiefly on the quality of the pus, and that, again, on the size of the opening. If the opening be pretty large, and a considerable quantity of feculent matter escapes, the pus is then of a very putrid quality, and the more putrid its character, the more offensive it is to the smell, and the more poisonous it is to the patient's system; for, as it is more offensive to the smell, so it is more loaded with sulphuretted hydrogen. Such a collection of putrid matter sometimes produces very urgent symptoms. I was sent for to see an elderly gentleman in the neighborhood of London, with the late Dr. Blickham. I will not say that on my arrival the patient was in *articulo mortis*, but he looked as if he had not long to live—I should say hardly twenty-four hours. On inquiring into the history of the case I ascertained that he had a fistula by the side of the rectum. He had suffered under it for many years; for being afraid of an operation, he had let it go on. The external orifice occasionally closed for a time, but in a few days it opened again, and gave exit to the matter. Two or three months, however, prior to the time of which I am speaking, the outer orifice had closed, and there had been no discharge, and at first no inconvenience had been felt. By and by there was a sense of pressure, a bearing down of the rectum, and the patient became very

much out of health. At last typhoid symptoms supervened, and he appeared, as I have said, almost dying. I examined the parts, externally, and saw that the orifice of the fistula had cicatrised. I then introduced my finger into the gut above the sphincter muscle, and I could feel an immense tumour on one side, which was evidently a large collection of matter. With the forefinger of one hand in the rectum, with the other I ran in a lancet up to the point where the matter was collected. Not only the shoulders, but the whole blade of the lancet was buried before matter escaped, and then there was a little putrid discharge. With a probe-pointed bistoury I dilated the opening, and there came away a pint of such putrid matter that the whole house was poisoned by it; it could be smelt almost as bad as if a nightman had emptied his cart into it. The patient was better directly; though the incision was large there was no bleeding, and he recovered without a bad symptom. This circumstance took place many years ago, and he died lately of another complaint.

I have stated that the inner orifice of the abscess is always just above the sphincter muscle, and it may be that the abscess extends no higher than this. But in a greater number of cases it does extend higher up—sometimes one inch, sometimes two; nay, I have sometimes found a probe pass four or five inches up the pelvis into a large cavity beside the rectum. These are cases of some interest, respecting which I shall have to speak to you again, presently.

The external orifice of the abscess is generally in the skin, a little distance from the anus. Sometimes it seems to pass through the substance of the sphincter muscle, and on other occasions it opens externally to it. The abscess may burrow, and may be two or three inches away from the anus.

In some cases there is no external opening at all, and that may happen in two ways. I saw a gentleman who had an ulcer at the posterior part of the rectum as broad as a fourpenny piece. Sometime afterwards I saw him again, and there was then a considerable discharge from the rectum, but no external opening. I introduced my finger into the rectum, and found that this broad ulcer had made a large cavity, in which matter was lodged, by the rectum. The sinus was so large that the matter had found its way out by the gut, and therefore did not burrow so as to make an external opening. But in other cases there is no external, while there are two internal openings, and they are found in the following manner:—There is a small opening through which the pus and fæces were originally infiltrated into the cellular membrane,

and then the matter having collected near the gut, bursts into it, and makes a free opening into the neighborhood of the first lesion. On examining the patient you find a discharge of pus from the inside of the rectum, and on introducing the finger you find distinctly the opening through which the abscess has burst into the rectum. This is what is commonly called blind fistula. The discharge in these cases is seldom quite constant; for the opening made by the bursting of the abscess into the rectum is not so large but what it sometimes contracts, and there not being a free discharge the matter collects, and you may feel it through the skin, near the anus. This is important with regard to the treatment, as I shall explain hereafter. At other times the orifice allows the matter to escape by the rectum, and then the external tumour disappears.

In some cases there is a simple abscess and a simple sinus; but in other instances the disease is very complicated. The matter does not easily get to the surface, and it burrows in different directions; there is a sinus in this direction, and a sinus in that; sometimes it extends even to the middle of the nates, and there may be a sinus on both sides of the rectum. In these cases, where there are several sinuses, and where the disease is rendered complicated from the burrowing of the matter, it sometimes happens that there are two internal openings; but in general, however complicated the case may be, there is only one internal opening, and that communicates directly with one sinus, and indirectly with another. It is of great consequence to bear this in mind as connected with the surgical treatment. Where there are several sinuses, burrowing in different directions, the patient always experiences some degree of inconvenience. The matter lodges in one place, not in another, but wherever it lodges it occasions pain, there is an attack of shivering, and then the matter escapes. It then lodges in another place, there is another attack of shivering, and in these complicated cases the patient is continually suffering local pain and tenderness, and these are combined with constitutional disturbance.

I now come to consider the treatment of these cases. Why is it that the abscess does not heal? It may, as I supposed formerly, partly arise from the unfavorable locality for healing, in consequence of the muscular fibres of the parts being always in motion. The levator muscle and the sphincter ani are constantly drawing the parts asunder, so that they are not allowed to contract, but that is not a sufficient explanation. There is an internal opening to the abscess, and now and then

a little bit of fæces or mucus will become infiltrated, and get into the cavity. That which produced the abscesses originally is going on still. If you could get the inner orifice to close, the patient would soon recover. This does sometimes take place. I saw a patient who had an abscess by the side of the rectum, and to whom I recommended an operation, but for some reason or other he wished to put it off. He went about for a considerable time with this abscess, and when I saw him again the abscess was closed, and had been closed so long, and on a careful examination the parts seemed so sound, that I had no doubt that the inner orifice had healed spontaneously; the escape of feculent matter was thereby prevented, and all the parts granulated and contracted like an abscess elsewhere. The medicine which we now call confec. piperis nigri was originally a quack medicine known by the name of Ward's paste. It is composed chiefly of black pepper and elecampane, and it had the reputation of curing fistula. I believe that it sometimes did so. It is very useful in the case of piles, and where there is an ulcer of the rectum unconnected with fistula. The black pepper mixes with the fæces, it passes down the canal, and becomes a stimulant to the mucous membrane. In this point of view it is useful to persons that suffer from disease of the mucous membrane after dysentery, or who have disease of the rectum. As it will cure piles and an ulcer of the rectum, so no doubt it will sometimes cure fistula. If the little ulcerated opening can be made to contract and cicatrise there is no reason why the external abscess should not heal. But you cannot depend on such a mode of treatment as this; it may or it may not happen to cure the patient, and for one instance in which it effects a cure, it fails a great number of times. The disease, however, may generally be cured by a very simple operation, and in speaking of the operation we will take the simplest case first. We will assume that there is a fistula just by the side of the sphincter muscle and only one sinus. The first thing to be done is to find the inner opening. I do not say that you will always succeed in finding it—certainly not the first time, but you will rarely fail if you look for it in the right place. Formerly, I often failed, and for this reason,—I did not know where to look for it. I used to think that it was to be found in the upper part of the sinus, but it is never found there if the sinus runs high up. You must search for it immediately above the sphincter muscle. Another circumstance that makes it difficult to find is this:—The common probe being quite round turns round in the hand; you want a probe of a much broader kind, so that

the least motion of the hand turns the point another way. For this operation I use the probe I now show you, made by Philp and Wicker, in St. James's street. First, it has a flat handle, and that gives you a perfect command of the instrument; secondly, at the extremity it is like a common probe; but you must have probes of different sizes. There is a groove, so that it is both a probe and a director at the same time, and being made of silver it is perfectly pliable.

Now, to find the inner opening, place the patient over a table to the light, with an assistant to hold the legs. You introduce the fourth finger of the right hand into the rectum, remembering that the opening is close to the sphincter muscle. You will feel with the finger some little irregularity, and that is where the opening is probably situated. You are then to introduce this probe into the external opening with the assistance of the finger in the rectum, using no force, and by a careful manipulation feeling first in one direction, and then in another, at last it will almost alone pass through into the rectum. It must be done gently, and a little practice will enable you to find the inner opening. You ascertain when it has passed through the opening by its coming in contact with the finger. If you do not find the opening the first day, put off the operation to another day. Occasionally I have tried two or three times before I could discover the opening, but generally, if you have probes of different sizes, it is easily found. Sometimes the opening is very small, and therefore requires a small probe. When you have found the inner opening, and the probe is in contact with your finger, you bend the end, and bring it out at the anus. Thus, the part towards the handle is seen projecting from the outer opening, and the other part from the anus, while the parts which are to be divided lie upon the groove of the director. I generally divide the fistula with a pair of curved knife-edged scissors, for they cut better than a bistoury. A bistoury tears, and you may cut your own finger if you use the sharp edge. Introduce the scissors along the groove of the director, and divide the parts that lie between the inner and the outer orifice. There is scarcely any thing to be divided—not above an inch or an inch and a quarter, but you divide the greater part of the sphincter muscle.

Having performed this operation, all you have to do is, to prevent the cut edges growing together. You have made it into a sore, some of the fæces go into the sore, but they do not lie and lodge there, and there is nothing to prevent this fistula which is now made into an open sore granulating and

healing. All you have to do is to dress the parts very lightly between the cut edges to prevent them growing together, and that must be continued till the cut edges are skinned over. You may then leave the parts alone, and the healing process will go on.

But suppose that the fistula extends high up by the side of the rectum, above the opening, and this fistula is burrowing, what is then to be done? I used to imagine formerly that it was necessary to lay open the whole sinus into the rectum, but it is a frightful operation to lay open so long a sinus. You do not know what vessels you divide. There is seldom much bleeding in dividing the parts between the inner and the outer opening, but if there be much the pressure of the finger and a bit of lint stops it directly. I remember a case where I dvided a fistula some way up by the side of the gut, and the whole canal was filled with blood. It is true the bleeding stopped, and the patient got well, but still he might have died from hæmorrhage. The bleeding goes on insidiously; you do not know how to stop it; it is internal, you cannot take up the vessels, and you cannot make pressure in any efficient man ner. But I am now satisfied, and have been for a long time, that the division of a fistula which extends above the inner orifice is quite an unnecessary proceeding. Upwards of twenty years ago, when I was first getting into practice, I had a patient with a fistula, which I divided, or, at least thought I had done it. But one day, when examining it with a probe, I found a sinus running up by the side of the gut for several inches. It seemed as if one side of the rectum was completely dissected from the neighboring parts, but there was a good opening at the lower part where I had divided the fistula. Not knowing what to do with the case, I called in the late Mr. Cline, and observed to him that if I divided it the whole length the patient might die from loss of blood. He said, "You are quite right, but more than that I do not think it is necessary, I would leave it alone." There was a free opening below; the fæces could not escape so easily now, and get into the cavity above. I adopted his advice, and the patient got well without any trouble. I have since seen other cases of the same kind. Where there has been a large sinus, connected with a fistula, I have laid open the parts between the inner and the outer orifice,—done nothing more,—and the patient has got well. If a very long sinus, and a very large cavity, heal up without being laid open, *à fortiori*, if there be a small sinus, and a small cavity, that will heal up too.

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TRAVELING LETTERS FROM THE SENIOR EDITOR.

NO. I.

MOBILE, April 23d, 1844.

To my Colleagues:

GETLEMEN:—I have now been in this, the second city of the gulf coast, for nearly a fortnight, and must report myself to you and our readers. You may fancy that I am among French and Spanish creoles, with numerous opportunities of observing the physiology and diseases of the descendants of France and Spain; but such is not the fact, for this is nothing more nor less than a veritable Yankee or New York trading town; the mass of the people being emigrants from the old thirteen, with even a larger population from the states of the north than can be found in Louisville. Of course they have brought with them the temperaments and predispositions of the families from which they were detached; and do not present to the eye of a northern physiologist any thing very new. Howbeit, Mobile is not without a considerable number of French, and a smaller num-

ber of Spanish creoles, a numerous mulatto and quadroon population, who speak the French tongue, and a body of Irish immigrants, much greater than I had expected to see. Apart from the marines, the last make up the majority of the inmates of the two extensive hospitals, of which, before closing, I shall say something.

Topography of the City.

The front squares of the city plat were originally a cypress swamp, into which the high tides of the bay were wont to flow. This border is now filled up with sand and built upon. This sand was brought from a plain or terrace in the rear, and the streets which start from the bay rise gradually to an elevation of fifteen or twenty feet. This plateau, naturally covered with pine and oak, stretches to the west five or six miles, when it terminates at the base of another plateau, about 100 feet high, a part of which makes the summer retreat of many families. Out of these wooded sand-hills several copious springs supply the city with very pure and soft water, having a temperature, before it enters the aqueduct, of 68°. Of course it does not get any cooler in making its way into the city, not far below the surface of the ground, in the latitude of 30° 45′; but ice is as "plenty as blackberries," (which by the way, are now on our tables), and so cheap as to be used profusely in all the drinking houses, and by nearly all classes of people. It was long since observed that no body died in Mobile from drinking water when heated in summer; and the reason assigned was the high temperature of the former compared with the well-water of Philadelphia and New York, where such casualties are said to be common. This opinion, however, was killed off by ice, when our medical brethren found that iced water failed to kill any of those laborers who drank it profusely at mid-summer, and there the matter rests, and there I will leave it, and return to Spring Hill. The road to this summer retreat lies through a series of beautiful country seats, much more numerous and elegant than those which embellish our boasted Bardstown-road.

I have brought you back to the pine woods to astound you with a notice of the

Thundering Spring,

which has been noised abroad in these parts for the last four years, and to which on Monday last, I made a sort of philosophical pil-

grimage, in company with some ladies of taste and observation. You may smile at such companionship in a tour of medical inquiry, but recollect that this was a rural excursion into the midst of natural scenery, and that the eyes and tastes of both sexes are necessary to a full perception of all the aspects which exterior nature presents. The latter part of our trip lay through a lofty forest of long-leaved pine, with but little shrubbery or under-brush, as the fire annually runs over the surface. The spring boils up about fifty feet below the summit level, and flows off into an adjoining woodland swawp or marsh, making one of the sources of "three mile creek;" which is bounded by swamps to its junction with Mobile river, two or three miles above the city. The quantity of water driven up and discharged by the thundering spring, is such as to give it a high rank among the fountains, (I shall not attempt a closer estimate). It boils up in such a manner as to suggest the escape of air, but none is emitted. This boiling is not uniform, but now and then there comes a momentary exacerbation, when the copious but humble *jet d'eau* rises several inches above the surface. A quantity of yellow sand is constantly rising with the strong ascending current, and falling back into the crater, which is an irregular aperture or chasm, in a friable, tertiary sand-stone of a reddish color. When a pole is run into this rocky orifice, it is found to be irregular and several feet in diameter; at the distance of eight or ten feet it is stopped by some obstruction. But I must come to the thundering part of my description. We had stood near the fountain but a moment, when we heard, under our feet, a noise like that of low distant thunder, or the rumbling of a carriage over the pavement of the street when we are seated at the fire-side with the doors and windows closed. It seemed like the sound of a subterranean, and irregularly intermittent cataract. On applying the ear to the trees and saplings which grow around the spot, the same sound was heard still more distinctly, and, moreover, a constant vibration was perceptible. I had not time, by a series of observations, to ascertain the distance from the spring, to which this tremor is propagated; but the owner, Mr. Pierce, who lives on the summit level, about two hundred yards off, assured us that the sound was often heard by his family. He made the discovery of this spring about four years ago, and immediately conceiving that it possessed some extraordinary virtues, determined on making it a watering place for the fashionables

of the city, and an asylum from the yellow fever. For aught that can be known, he might have regarded it as the fountain of health and rejuvenescence, which Ponce de Leon sought when he landed on the shores of Florida. Like any other pains-taking and industrious man, he resolved not to rely merely on the fountain's voice to call out the ladies and gentlemen of Mobile, but captured and encaged a rattlesnake, whose *gong* might co-operate with the groanings of the gnomes and nymphs below; but neither the voices calling from this "vasty deep," nor the rattle of the watchman of the woods above, have as yet assembled the expected throng of customers. In fact when tested with reagents, the water is free from every foreign ingredient except a trace of muriate of soda. Its purity indeed, is just as great as that of the neighboring springs, from some of which the city is supplied; but I found its heat 69°, or one degree greater than the other copious fountains round about. Such is the thundering spring, the theory of which I shall leave to yourselves and the geologists, returning to the city to give you a notice of some of its institutions; beginning with

The Profession.

On the whole, I am disposed to believe that Mobile is not quite so much crowded with the messengers of life and death, as most other towns I have visited; but of course I have not become acquainted with the whole, and cannot even state the number. Those whom I have the pleasure of knowing, are generally, intelligent, peaceable and courteous, having, as far as I can discover, the confidence of a very well-informed community, to which they are as much entitled as any equal number of medical gentlemen in any town that I visited. They have among them a chartered association styled the

Mobile Medical Society,

which embraces the most popular practitioners of the city, and holds monthly meetings, at which papers are read and discussed. The society has also established a tariff of charges, by which a physician is permitted or required to charge three dollars per single visit, and five for two visits on the same day, furnishing his own medicines and charging for the same. I fear this information will set the mouths of some of our brethren on the banks of the Ohio, Green River, and the Wabash to watering; but a traveler, you know, is

bound to tell the truth. The society is authorized by its charter to appoint out of its own body an

Examining and Licensing Board,

of five members, for the county of Mobile; and no scientific physician, even, I believe, a graduate, not thus licensed, can have the benefit of the courts of justice to collect his debts. Steam doctors, however, are exempt from this penalty! Verily, the legislature of Alabama must know much more of the science of cotton-planting than of medicine. I would advise them to look a little to consistency, and create a board of examiners, composed of men who can read, to ascertain that the disciples of that good, old mystical empiric, Samuel Thomson, really understand his book; without which they should not be allowed the benefit of the law. This measure, would, I fancy, soon drive them back to their *lasts* and *geese.*

I must, however, do the legislature the justice to state, that notwithstanding their tender admiration for the steamers, their respect for public opinion has deterred them from consituting that fraternity, the legal advisers of the city council; for, by its charter, the society is required, under the ordinances of the city, to organize a

Board of Health,

and procure and communicate the information necessary to the prevention of disease. To this end, the president, vice president, and secretary of the society constitute the advisory and executive cabinet of the council.

The City Hospital.

This is an extensive and commodious edifice, erected several years ago, so far from the Bay that it is still in the edge of town. It was designed strictly for the sick, and not as a receptacle for healthy paupers. Till last spring, it had the care of sick marines, and received from the general government the port money. The mass of its expenses was, however, defrayed out of the city treasury. At present it is rented to two enterprising physicians, Drs. Crawford and Ross, who, for a specific sum engage to receive, and take care of a given number of patients. The edifice is clean, well ventilated and appears to be managed in a faithful and efficient manner. A majority of the patients are Irish. There are wards appropriated for pay-

ing patients, and gentlemen who may be taken ill in Mobile, would do well to repair thither.

Commercial Hospital.

This was lately finished by the general government. It stands hard by the other, which, in architectural appearance, it rather overshadows. The plan is good, and in passing through it, I could not but be struck with the greater care bestowed by the Federal government on the wants of the water-men of the coast, than of the interior, which has been petitioning, unsuccessfully, for the last ten years. The physician who has charge of this public charity, is Dr. Gale.

Lunatic Asylum.

Neither Mobile nor the State of Alabama, has a hospital for the insane. It would be superfluous to say, that one is greatly needed. Eighteen months ago a gentleman was carried by his friends from the interior of this State to Ohio, and had to be brought back, because he could not for want of room be admitted into the excellent asylum at Columbus. Why do not the respectable and influential physicians of this State bring the subject before its general assembly; and continue pressing it on that honorable body, till an appropriation for a State institution be made? But it should not be established in Mobile, on account of the distance from the northern boundary of the State, and because its inmates might be invaded by yellow fever. Moreover, if it be erected at the seat of government, it will be more likely to receive the fostering care of the legislature, than if at a distance, where its touching scenes and precious blessings, would not display themselves to those who are to vote the annual supplies. I do not hesitate to predict, that if this subject should be forcibly, that is fairly, presented to the general assembly, the second session after such a presentation would afford an appropriation with which to commence an edifice, equal to the wants, and worthy of the character of this respectable State.

School for the Blind and Deaf.

These, although less urgently needed than a hospital for the insane, are important desiderata; and here, again, the children of misfortune and penury look up to the members of the medical profession. It is for them to make known to governors and legislators the resources of science and humanity, under the loss of sight and hearing; to plead for those whom they cannot restore; and establish them-

selves in the hearts of their fellow-citizens by proving themselves the benefactors of the unfortunate and obscure—for whom, too often, no body cares, because no body sets forth their infirmities, or points out the means of relief. The blind and deaf children of the rich may be sent away to the schools of another State, but those of poor parents necessarily grow up in ignorance. All such should be regarded as the children of the State, and be educated by her;—policy humanity and justice, alike, call for this public consideration. I say justice, because the State is endowed by the general government with a large landed income for the promotion of learning, in which the blind and deaf, without appropriate schools, can in no wise participate. But I have made my homily quite as long as becomes a stranger; and will break off, for the purpose of telling you something about

Yellow Fever.

Under the old Spanish and French regime, when Mobile was a village without wharves or ships, save an occasional lugger, when new comers were seldom seen in the crooked and narrow streets, and the people preferred fiddling and dancing to clearing off the drift and filth, which lodged in the margin of the stream, yellow fever never made its appearance. The first epidemic of which I am able to collect any imformation, was in 1819, since which it has recurred in 1821, '25, '27, '29, '37, '39, '42 and 1843, appearing sporadically in many other years. Of all these epidemics, I have by the kindness of the physicians and other gentlemen, collected a considerable number of facts. In reference to their origin, there is no diversity of opinion. I have not yet met with the first believer in importation. However they may disagree as to the mode of domestic origin, all concur in it as a reality. In reference to importation, Mobile is peculiarly situated, as the waters of the Bay are too shallow to admit of the approach of ships to the city, all of which, at least all the larger, lie 20 or 30 miles below, just within the Bay. I am far from considering the unanimity of opinion on this subject as conclusive; but it must be admitted to have in it the value of a fact; and I cannot but regard it is remarkable that, with an epidemic recurrence, on an average, every three years, if it were imported by ships which cast anchor at such distance from the city, its introduction from them should never have been detected.

Dr. Dewees' Residence.

Many of our readers have the name of Dewees so intimately associated with Philadelphia, as the theatre of those labors which finally made him the first man of America, in his line, that they may be surprised at the head line of this paragraph. In writing it I feel that I am but discharging a filial duty, for I was his pupil through the winter of 1805–6. It will be recollected, that after an apoplectic attack a few years before his death, he emigrated to this city, in the hope that its mild climate might renovate his crippled brain and nervous system. He immediately became the consulting physician of the place, and patients were brought to him from the interior, from Pensacola, and even New Orleans. Change of scene and climate, with these gratifying manifestations of confidence in his skill renovated his hopes, but failed to restore either his former health or mental power. While thus buoyed up, he engaged in building a large and curiously planned house, high up Government Street; and the pupil, who like myself, may make a pilgrimage to it, will find the unfinished, and dilapidated edifice inhabited by four poor families, with a school of eight little girls.

Meteorological Observations.

Mobile has a meteorologist, Dr. Stephen North, who makes observations worthy of being recorded, because confidence may be placed in their accuracy. This I am sorry to say is not always the case. I take pleasure in making him still better known, as it may lead observers in other places to seek exchanges of results with him, while this brief notice, is but an appropriate tribute of respect, for his patient fidelity as an observer.

Plan of the City and its Environs.

Mr. Lewis Troost, civil engineer and city surveyor, has just finished for me a map, of octavo size, which will show all the relations of water, dry land, and swamp, to the city. This will be one of a series, illustrative of the medical topography of the regions I have been, and still am exploring. I hope they will be found interesting and instructive.

Smoking and Drinking.

If one may judge from the number and populousness of the saloons and dram-shops, the number of drinkers, in this city, in proportion to

its population, is not surpassed by any other city in the world. The temperance reform, in its palmiest days, seems to have extended less influence here than in most other places. The Irish laborers, who are very numerous, drink from instinct, and to support their national character, as it was before their emigration; but the saloons are as crowded as the doggeries. I am assured that not long since, there was a coffee house here, which cleared annually more than the salary of the President of the United States; and, at this time, the bar-room of the largest hotel of the city, is said to meet the expenses of the entire establishment. A large proportion of these customers are from those States in which public opinion has thrown its salutary restraints around young men, who, on the distant shores of the gulf, are indemnifying themselves for the deprivations under which they languished on the banks of the Delaware and the Hudson. Thus it is, that they prepare themselves for yellow fever; which, last year made its *debut* among a party of this kind, immediately after they had spent three days in a carousal over the Bay.

Moral and Refined Society.

Of this I feel abundant evidence every day, and its hospitality is equal to its intelligence and purity. Under this conviction, having finished my inquiries into its diseases, I shall leave here to-morrow for New Orleans, where your will hear from me again in due time.

D.

ILLINOIS MEDICAL JOURNAL.

A new journal is offered to the profession from the far west. Dr. Blaney, of Chicago, issued the first number of the *Illinois Medical and Surgical Journal* in April, and proposes to publish it monthly at $1 per annum. At this price, it would be supposed that any physician might afford to take it. The Illinois Medical Journal prefers some peculiar claims upon the profession in that thriving quarter of our country. In the nature of the case, it must possess a local interest, and it will afford to the physicians in that region a medium through which they may make known their views and experience. The medical schools in the United States sent out at the late commencements, we believe, twelve hundred graduates, who are now assuming the responsibility of their profession, and who ought to

be reading men. Such accessions to the ranks of the profession must multiply rapidly the subscribers to medical journals, and in the growth, room, it is to be hoped, will be found for the new journal of Illinois. Y

PROFESSOR BARTLETT.

This accomplished and popular teacher has resigned his professorship in the Transylvania medical school, and accepted of a chair in the University of Maryland. Professor Bartlett's learning, talents and address rendered him an ornament to the institution which he has left, and qualify him for great usefulness in the new sphere to which he is about to remove. He carries with him the respect and good wishes of all his brethren in the West. Success crown his efforts to make the ancient school of Baltimore one of the first in America! He is succeeded by Dr. L. G. Watson, of N. C. Y.

MEDICAL SOCIETY OF TENNESSEE.

This society held its fifteenth annual meeting in Nashville on the 1st of May, and a copy of its proceedings is already on our table. The members who persevere in attending the meetings of this society, and labor to impart interest to them by communicating the results of their experience, deserve well of the public. They are fired by the proper zeal to raise the standing and contribute to the resources of their profession. We have repeatedly had occasion to applaud the spirit of this society. It has no toleration for quackery. A book was sent to it by Dr. Sappington, of Missouri, at its late meeting, which came in a rather questionable shape through a newspaper advertisement. Resolved by the Society, "that the book be returned to its author."

Interesting papers were read to the society which we expect to receive for insertion in our journal. Dr. Buchanan was re-elected President, and Dr. Thompson Vice President; Dr. C. K. Winston was elected Corresponding Secretary, Dr. Stout Recording Secretary, and Dr. R. Martin Treasurer of the Society. Many valuable specimens have been added, during the year, to the Society's Anatomical Museum. Y.

PROFESSOR CALDWELL AND ANIMAL CHEMISTRY.

Some of our friends, very recently, have expressed to us an apprehension that the spirit of our review of Professor Caldwell's Critique on Liebig's Animal Chemistry, might be misconceived. To prevent the possibility of any such misconception, we gladly avail ourselves of this opportunity to declare, that our review was written in a temper of the utmost respect and kindness for our distinguished colleague, whose magnanimity, we knew, tolerated the severest criticism of his doctrines. If our notice contains a single expression which evinces anything of a contrary spirit, we sincerely regret it. We would gladly expunge every word, which might not be used with propriety by a pupil towards a venerated preceptor. We felt constrained to notice the Critique, and, in doing so, we set forth plainly our objections to it; at the same time, it was our study to avoid every form of expression that could give offence. Y.

PROFESSOR HALL, OF BALTIMORE.

Some months ago, Prof. Hall was arraigned before the Regents of the University of Maryland on the ground of incompetency. The graduates in March adopted the most complimentary resolutions to the professor, for his industry, talents and learning, declaring that they "listened with pleasure and improvement to his able and complete course of lectures." Y.

NECROLOGY.

Dr. Francis W. Campbell, of Spring Hill, Arkansas, died at Jackson, Tennessee, on the 5th of April last, of abscess of the liver, resulting from repeated attacks of bilious fever. The abscess discharged its contents into the cavity of the chest—whether into the pleura or the lungs, is not stated. Dr. C. was 35 years of age, a skilful physician, a gentleman and a christian, whose loss will be keenly felt by a large circle by whom he was highly and justly esteemed. Y.

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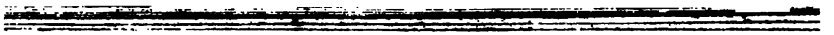
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